DRAFT ENVIRONMENTAL IMPACT REPORT

KERN-TULARE WATER DISTRICT
OIL FIELD WATER REUSE PROJECT
(SCH# 2015021024)

Executive Summary

May 2016

Quad Knopf

NOTICE OF AVAILABILITY OF AN ENVIRONMENTAL IMPACT REPORT

Date:	May 20, 2016
To:	State Clearinghouse, Responsible and Trustee Agencies, and Interested Parties (see attached mailing list)
From:	Kern-Tulare Water District, 5001 California Avenue, Suite 102, Bakersfield, CA 93309
Lead Agency Contact Person:	Steven C. Dalke, General Manager, 661-327-3132, sdalke@kern-tulare.com
Project Title:	Kern-Tulare Water District Oil Field Water Reuse Project
State Clearinghouse Number:	2015021024

NOTICE IS HEREBY GIVEN that the Kern-Tulare Water District (District) has prepared a draft Environmental Impact Report (EIR), which is being distributed for public review. The draft EIR has been prepared pursuant to the California Environmental Quality Act (CEQA) as set forth in Public Resources Code (PRC) Section 21000 et seq. and State CEQA Guidelines, Title 14 Section 15000 et seq. The District is the Lead Agency for the Kern-Tulare Water District Oil Field Water Reuse Project (Project).

Project Location

The Project area is located in unincorporated Kern County, approximately 30 miles north of Bakersfield, 12 miles east of Delano, and 24 miles south of Porterville, near the intersection of State Route (SR) 155 and SR-65.

Project Description

The Project is the development of a water delivery and storage system that consists of various sized underground pipelines, three agricultural turnouts, and two new reservoirs with a total storage capacity of 1,410 acre-feet (AF). The Project would deliver and store water produced as a byproduct of existing oil extraction (i.e., produced water) from nearby oil fields to existing and proposed District reservoir facilities in order to provide a supplemental supply of water to serve the District's customers for irrigation purposes. The Project would "blend" produced water and surface water from the Friant-Kern Canal within the three reservoirs (the proposed Section 35 and Guzman Reservoirs and the existing Big Four Reservoir) in order to meet the various standards and future water quality objectives.

ENVIRONMENTAL TOPICS EVALUATED

The draft EIR addresses the potential environmental impacts of the Project to the following environmental issue areas:

- Aesthetics
- Agriculture and Forestry Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Mineral Resources
- Noise
- Transportation and Traffic
- Utilities and Service Systems

The draft EIR also evaluates two Project alternatives: 1) No-Project Alternative and 2) One Reservoir Alternative.

Public Comment Period

The draft EIR and its technical studies are available for the CEQA required 45-day public review and comment period from May 20, 2016 through July 5, 2016. Written comments on the draft EIR and technical studies must be postmarked by July 5, 2016. Submit written comments to:

Steven C. Dalke
General Manager
Kern Tulare Water District
5001 California Avenue, Suite 102
Bakersfield, CA 93309
sdalke@kern-tulare.com

Reviewing Locations

Copies of the draft EIR are available for review at the following locations:

Kern-Tulare Water District
5001 California Avenue, Suite 102
Bakersfield, CA 93309

Beale Memorial Library
701 Truxtun Avenue
Bakersfield, CA 93301

Supporting documents not included in the draft EIR are available for public review at the District's office.

State Clearinghouse
Office of Planning and Research
P.O. Box 3044
Sacramento, CA 95812-3044
OVERNIGHT COURIER

Kern County Clerk
1115 Truxton Avenue
Bakersfield, CA 93301
HAND-DELIVERED

Kern County LAFCO
5300 Lennox, Suite 303
Bakersfield, CA 93309

U.S. Army Corps of Engineers
Attn: Kate Dadey
1325 J Street
Sacramento, CA 95814

California Department of Water Resources
Division of Safety of Dams
2200 X Street, Suite 200
Sacramento, CA 95818

State Water Resources Control Board
1001 I Street
Sacramento, CA 95814

U.S. Bureau of Reclamation
Attn: Rain Emerson
1243 N Street
Fresno, CA 93721

Kern County Planning and Community
Development Department
Attn: Special Projects Section
2700 M Street, Suite 100
Bakersfield, CA 93301

California Department of Conservation
Division of Oil, Gas, and
Geothermal Resources
4800 Stockdale Highway, No. 417
Bakersfield, CA 93309

California Department of Conservation
Division of Land Resource Protection
801 K Street, MS 13-71
Sacramento, California 95814

SJVAPCD
Southern Region
34946 Flyover Court
Bakersfield, CA 93308

U.S. Fish and Wildlife Service
Region 8
2800 Cottage Way, Room W-2606
Sacramento, CA 95825

Environmental Protection Agency
Region IX Office
75 Hawthorn Street
San Francisco, CA 94105

Kern Council of Governments
1401 19th Street, Ste 300
Bakersfield, CA 93301

Beale Memorial Library
701 Truxtun Avenue
Bakersfield, CA 93301

State Air Resources Board
Stationary Resource Division
P.O. Box 2815
Sacramento, CA 95812

Chumash Council of Bakersfield
P.O. Box 902
Bakersfield, CA 93302

Tubatulabals of Kern County
P.O. Box 226
Lake Isabella, CA 93240

Tejon Indian Tribe
Attn: Kathy Morgan, Chairperson
2234 4th Street
Wasco, CA 93280

Kern Valley Tribal Council
PO Box 168
Kernville, CA 93238

Santa Rosa Rancheria
Attn: Clarence Atwell, Chairperson
PO Box 8
Lemoore, CA 93245

Kitanemuk & Yowlumne Tejon Indians
Attn: Delia Dominguez
981 North Virginia
Covina, CA 91722

Semitropic Water Storage District
PO Box Z
Wasco, CA 93280

North Kern Water Storage District
PO Box 81435
Bakersfield, CA 93308

Cawelo Water District
17207 Industrial Farm Road
Bakersfield, CA 93308

Tulare County
Planning & Development Department
5961 South Mooney Boulevard
Visalia, CA 93291

Kern County Supervisor Mick Gleason
1115 Truxtun Avenue, 5th Floor
Bakersfield, CA 93301

Shafter-Wasco Irrigation District
Attn: Dana Munn
PO Box 1168
Wasco, CA 93280

DEID
Attn: Dale Brogan
14181 Avenue 24
Delano, CA 93215

Friant Water Authority
Attn: Eric Quinley
854 North Harvard Avenue
Lindsay, CA 93247

Kern County Water Agency
Attn: Curtis Creel
PO Box 58
Bakersfield, CA 93302

California Independent Petroleum Association
Attn: Blair Knox
1200 Discovery Drive, #100
Bakersfield, CA 93309

California Resources Corporation
Attn: John Ocana
9600 Ming Avenue
Bakersfield, CA 93311

Hathaway LLC
Attn: Gale Simmons
4205 Atlas Court
Bakersfield, CA 93308

Daybreak Oil and Gas, Inc.
Attn: Ben Anderson
601 West Main, Suite 1017
Spokane, WA 99201

Echeverria Cattle Company
Attn: Mike Echeverria
6216 Alfred Harold Highway
Bakersfield, CA 93308

Jasmin Ranchos Mutual Water Company
Attn: Camron Drain
3835 East Thousand Oaks Boulevard, #320
Westlake Village, CA 91362

California Resources Corporation
Attn: Kevin Malamma
11000 River Run Boulevard, Building A
Bakersfield, CA 93311

Print Form

Appendix C

Notice of Completion & Environmental Document Transmittal

Mail to: State Clearinghouse, P.O. Box 3044, Sacramento, CA 95812-3044 (916) 445-0613
For Hand Delivery/Street Address: 1400 Tenth Street, Sacramento, CA 95814

SCH #2015021024

Project Title: Oil Field Water Reuse Project

Lead Agency: Kern-Tulare Water District | Contact Person: Steven C. Dalke
Mailing Address: 5001 California Avenue, Suite 202 | Phone: 661-327-3132
City: Bakersfield | Zip: 93309 | County: Kern

Project Location: County: Kern | City/Nearest Community: N/A
Cross Streets: State Route (SR) 155 and SR-65 | Zip Code: 93215
Longitude/Latitude (degrees, minutes and seconds): 35 ° 43 ′ 24 ″ N / 119 ° 03 ′ 07 ″ W | Total Acres: 85
Assessor's Parcel No.: Various | Section: 27 | Twp.: 25S | Range: 27E | Base: MDB&M
Within 2 Miles: State Hwy #: SR-155 and SR-65 | Waterways: Dyer Creek, Little Creek, and Five Dog Creek
Airports: N/A | Railways: N/A | Schools: N/A

Document Type:

CEQA: ☐ NOP ☒ Draft EIR ☐ Supplement/Subsequent EIR (Prior SCH No.) ☐ Early Cons ☐ Neg Dec ☐ Mit Neg Dec Other:
NEPA: ☐ NOI ☐ EA ☐ Draft EIS ☐ FONSI
Other: ☐ Joint Document ☐ Final Document ☐ Other:

Local Action Type:

☐ General Plan Update ☐ General Plan Amendment ☐ General Plan Element ☐ Community Plan
☐ Specific Plan ☐ Master Plan ☐ Planned Unit Development ☒ Site Plan
☐ Rezone ☐ Prezone ☐ Use Permit ☐ Land Division (Subdivision, etc.)
☒ Annexation ☐ Redevelopment ☐ Coastal Permit ☐ Other:

Development Type:

☐ Residential: Units ____ Acres ____
☐ Office: Sq.ft. ____ Acres ____ Employees ____
☐ Commercial: Sq.ft. ____ Acres ____ Employees ____
☐ Industrial: Sq.ft. ____ Acres ____ Employees ____
☐ Educational: ____
☐ Recreational: ____
☐ Water Facilities: Type ____ MGD ____
☐ Transportation: Type ____
☐ Mining: Mineral ____
☐ Power: Type ____ MW ____
☐ Waste Treatment: Type ____ MGD ____
☐ Hazardous Waste: Type ____
☒ Other: Oil field produced water conveyance system

Project Issues Discussed in Document:

☒ Aesthetic/Visual
☒ Agricultural Land
☒ Air Quality
☒ Archeological/Historical
☒ Biological Resources
☐ Coastal Zone
☒ Drainage/Absorption
☐ Economic/Jobs
☐ Fiscal
☒ Flood Plain/Flooding
☒ Forest Land/Fire Hazard
☒ Geologic/Seismic
☒ Minerals
☒ Noise
☒ Population/Housing Balance
☒ Public Services/Facilities
☒ Recreation/Parks
☒ Schools/Universities
☒ Septic Systems
☒ Sewer Capacity
☒ Soil Erosion/Compaction/Grading
☒ Solid Waste
☒ Toxic/Hazardous
☒ Traffic/Circulation
☒ Vegetation
☒ Water Quality
☒ Water Supply/Groundwater
☒ Wetland/Riparian
☒ Growth Inducement
☒ Land Use
☒ Cumulative Effects
☐ Other:

Present Land Use/Zoning/General Plan Designation:

Various

Project Description: *(please use a separate page if necessary)*

The Project is the development of a water delivery and storage system that consists of various sized underground pipelines, three agricultural turnouts, and two new reservoirs with a total storage capacity of 1,410 acre-feet (AF). The Project would deliver and store water produced as a byproduct of existing oil extraction (i.e., produced water) from nearby oil fields to existing and proposed District reservoir facilities in order to provide a supplemental supply of water to serve the District's customers for irrigation purposes. The Project would "blend" produced water and surface water from the Friant-Kern Canal within the three reservoirs (the proposed Section 35 and Guzman Reservoirs and the existing Big Four Reservoir) in order to meet the various standards and future water quality objectives.

Note: The State Clearinghouse will assign identification numbers for all new projects. If a SCH number already exists for a project (e.g. Notice of Preparation or previous draft document) please fill in.

Revised 2010

Reviewing Agencies Checklist

Lead Agencies may recommend State Clearinghouse distribution by marking agencies below with and "**X**".
If you have already sent your document to the agency please denote that with an "**S**".

X	Air Resources Board	X	Office of Historic Preservation
	Boating & Waterways, Department of		Office of Public School Construction
X	California Emergency Management Agency		Parks & Recreation, Department of
	California Highway Patrol		Pesticide Regulation, Department of
X	Caltrans District #6	X	Public Utilities Commission
	Caltrans Division of Aeronautics	X	Regional WQCB #CV
	Caltrans Planning		Resources Agency
X	Central Valley Flood Protection Board		Resources Recycling and Recovery, Department of
	Coachella Valley Mtns. Conservancy		S.F. Bay Conservation & Development Comm.
	Coastal Commission		San Gabriel & Lower L.A. Rivers & Mtns. Conservancy
	Colorado River Board		San Joaquin River Conservancy
X	Conservation, Department of		Santa Monica Mtns. Conservancy
	Corrections, Department of		State Lands Commission
	Delta Protection Commission		SWRCB: Clean Water Grants
	Education, Department of	X	SWRCB: Water Quality
	Energy Commission		SWRCB: Water Rights
X	Fish & Game Region #4		Tahoe Regional Planning Agency
	Food & Agriculture, Department of	X	Toxic Substances Control, Department of
	Forestry and Fire Protection, Department of	X	Water Resources, Department of
	General Services, Department of		
	Health Services, Department of		Other:
	Housing & Community Development		Other:
X	Native American Heritage Commission		

Local Public Review Period (to be filled in by lead agency)

Starting Date May 20, 2016 Ending Date July 5, 2016

Lead Agency (Complete if applicable):

Consulting Firm: _____
Address: _____
City/State/Zip: _____
Contact: _____
Phone: _____

Applicant: _____
Address: _____
City/State/Zip: _____
Phone: _____

Signature of Lead Agency Representative: /s/ **Date:** May 20, 2016

Authority cited: Section 21083, Public Resources Code. Reference: Section 21161, Public Resources Code.

Draft Environmental Impact Report
Kern-Tulare Water District
Oil Field Water Reuse Project
(SCH# 2015021024)

Executive Summary

Prepared for:
Kern-Tulare Water District
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Bakersfield, CA 93309
Contact Person: Steven C. Dalke
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Consultant:

Quad Knopf
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Bakersfield, CA 93309
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Phone: (661) 616-2600
Fax: (661) 616- 5970

May 2016

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CHAPTER 1 – EXECUTIVE SUMMARY

1.1 Introduction

The Kern-Tulare Water District Oil Field Water Reuse Project (Project) is the development of a water delivery and storage system that consists of various sized underground pipelines, three agricultural turnouts, and two new reservoirs with a total storage capacity of 1,410 acre-feet (AF). The Project would deliver and store water produced as a byproduct of oil extraction (i.e., produced water) from nearby oil fields to existing and proposed Kern-Tulare Water District (District or KTWD) facilities in order to provide a supplemental supply of water to serve the District's customers for irrigation purposes and to improve nearby rangeland.

This Environmental Impact Report (EIR) has been prepared by the District as the Lead Agency under the California Environmental Quality Act (CEQA). The EIR provides information about the environmental setting and impacts of the Project and its alternatives, and informs decision-makers and the public about the Project and its impacts.

This Executive Summary briefly provides information about the intended use of the EIR; the Project's environmental setting; a description of the Project; the Project's objectives; the decisions, approvals, and permits required; the Project's alternatives and the environmentally superior alternative; the areas of controversy; the issues to be resolved; and the Project's environmental impacts and mitigation measures.

1.2 Intended Use of the EIR

An EIR is intended to inform decision makers and the public about a project's significant environmental effects and ways to reduce them as well as enable the Lead Agency, other Responsible Agencies, interested parties, and the public to evaluate a project's environmental impacts, thereby enabling them to make informed decisions with respect to the required decisions, approvals, and permits. An EIR also demonstrates to the public that the environment is being considered and protected as part of a project's approval process. It also ensures political accountability by disclosing to the public environmental values held by elected and appointed officials as well as demonstrates that the Lead Agency has considered the environmental implications of its actions.

1.3 Environmental Setting

The following discussion provides the existing regional and local environmental setting of the Project site and its surroundings as well as surrounding land uses and the Project's location. This section also provides a brief background about the District and information about the District's current distribution system. Figure 1-1 provides a map of the regional location of the Project. Figure 1-2 shows a conceptual site plan of the Project. For purposes of this discussion, the "Project site" or "site" is defined as the footprint of the proposed pipeline alignments, three agricultural turnouts, and two reservoirs that would be constructed as a result of the Project's implementation.

County of Kern

State of California

PROJECT LOCATION

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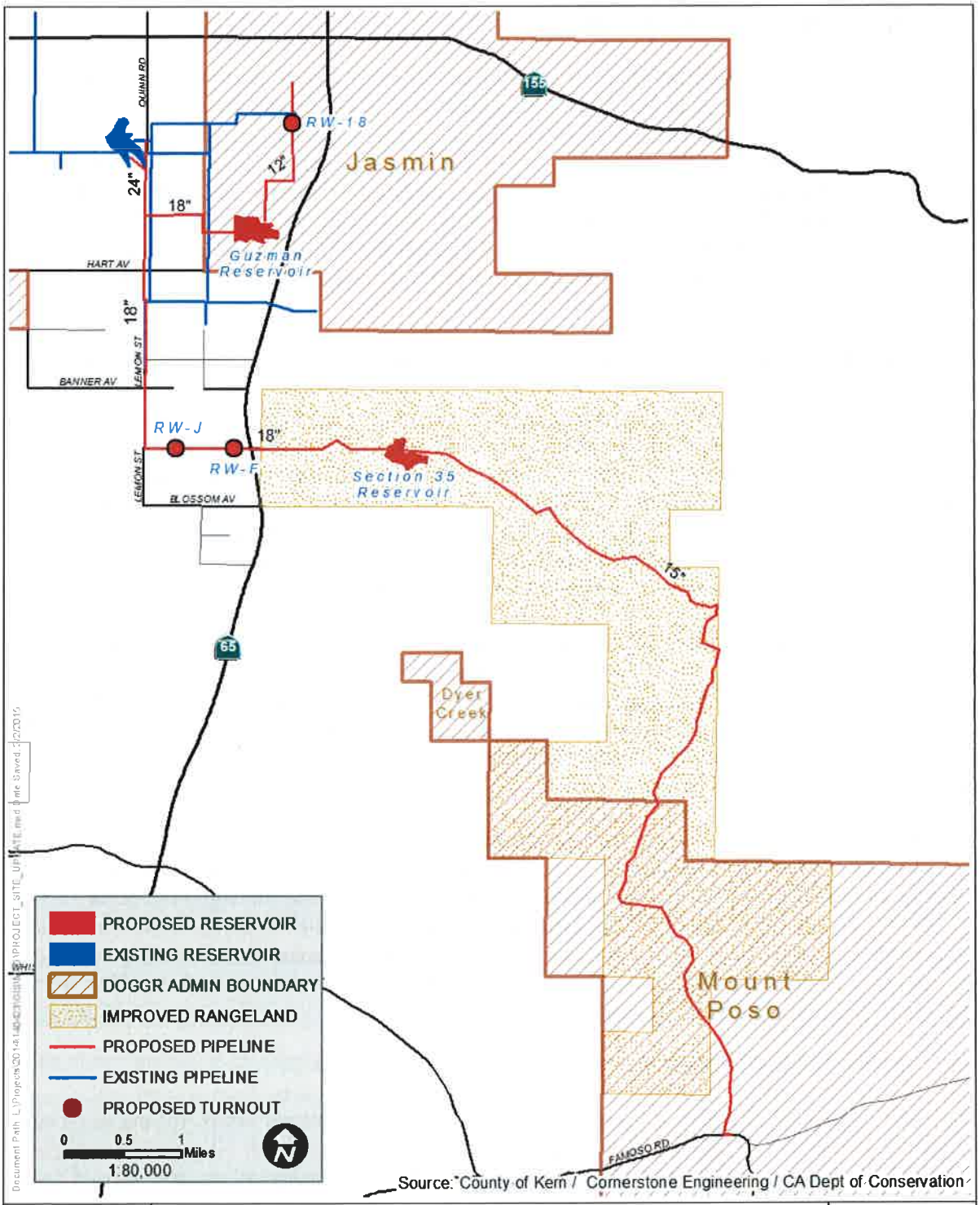
Regional Location

Figure 1-1



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Conceptual Site Plan

Figure 1-2

1.3.1 REGIONAL AND LOCAL SETTING

The approximately 85-acre Project site is located in the north-central portion of unincorporated Kern County, California, near the Kern County/Tulare County border (see Figure 1-1). Kern County is California's third-largest county in land area, encompassing 8,202 square miles. Located predominantly in the southern end of California's San Joaquin Valley (or Central Valley), the geography of Kern County is diverse, with agricultural lands that predominantly characterize the Central Valley portion of the county as well as mountainous and desert areas that broadly define the remainder of the county. Although the District encompasses lands in both Kern and Tulare counties, the Project would be limited to Kern County.

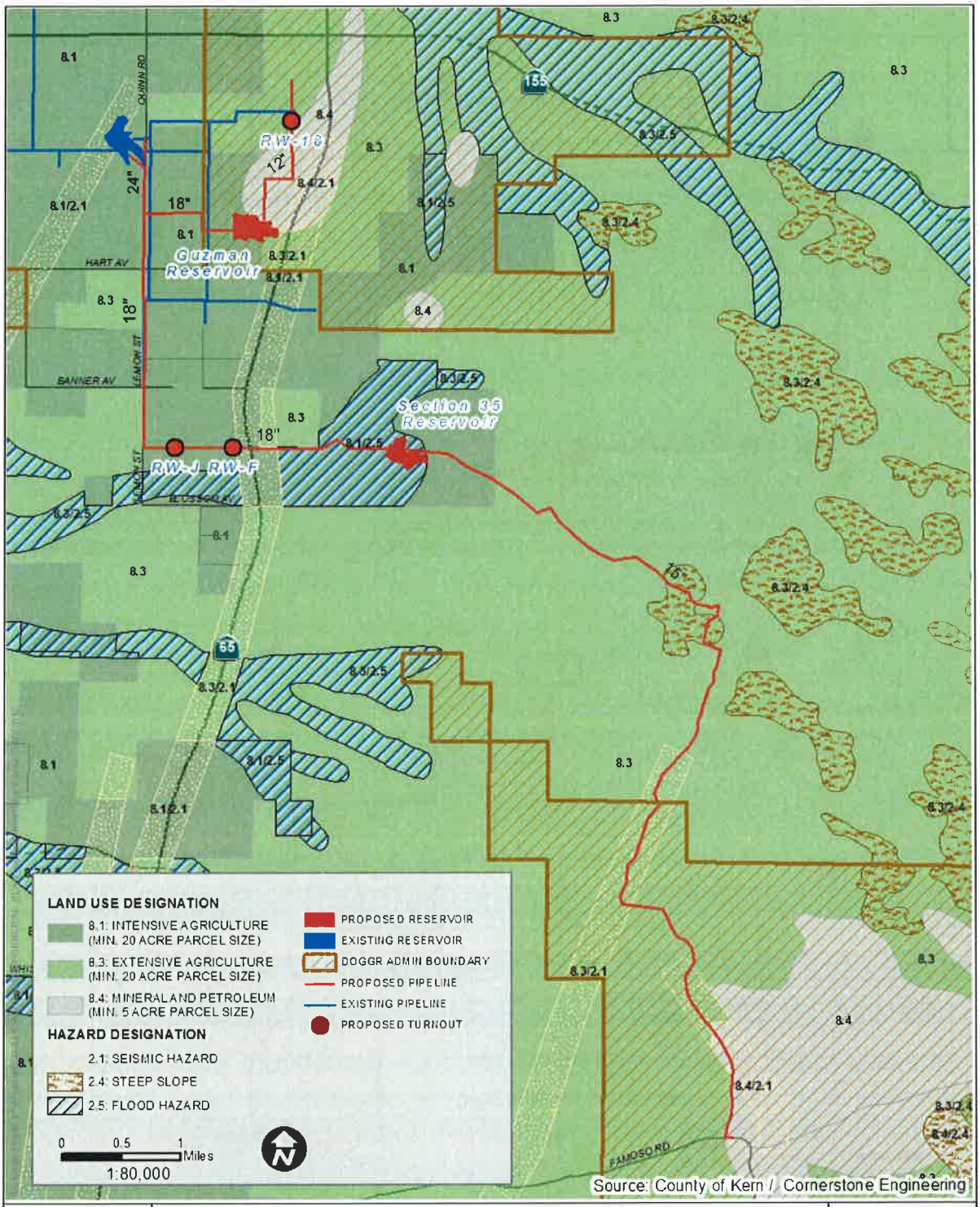
Kern County is bound by Kings, Tulare, and Inyo counties to the north; San Bernardino County to the east; Los Angeles and Ventura counties to the south; and Santa Barbara and San Luis Obispo counties to the west. The Central Valley portion of Kern County consists of sedimentary alluvial deposits that have eroded from the Sierra Nevada and other adjacent mountain ranges, with subsequent uplift and faulting that has created some hilly terrain. Alluvial deposits are defined as sediments deposited by flowing water, such as in a riverbed or floodplain. The Central Valley portion of Kern County is characterized by relatively low rainfall, high summer temperatures, and mild winters. This portion of the County is found within the rain shadow of the Coastal Range. The closest weather monitoring station to the Project site, in the City of Delano, shows that the Project area has on average 7.2 inches of annual rainfall.

Kern County's economy is largely resource-based revolving around oil and commercial-scale agricultural production. The District's constituents solely engage in commercial-scale agricultural production, and predominantly in farming high-value permanent (e.g., nut and citrus) crops. Kern County also contains numerous mining operations, with extraction that includes sand and gravel, stone, gold, dimensional stone, limestone, clay, shale, gypsum, pumice, decorative rock, silica, and specialty sand.

The Project site's elevation ranges from 1,085 feet above mean sea level (msl) to 595 feet above msl and slopes generally from east to west. A small portion of the site is located with a Federal Emergency Management Agency designated 100-year floodplain and the site traverses a number of U.S. Geological Survey (USGS) defined intermittent "blue-line" streams. Blue-line streams are streams on USGS maps shown as either a solid blue line for perennial (i.e., lasting or existing for a long or apparently infinite time) streams or, in the case of the Project, dotted blue lines if the stream is intermittent (i.e., stopping or ceasing for a time).

1.3.2 SURROUNDING LAND USES

The site is found in an area that consists of relatively flat agricultural lands, rolling rangeland, undeveloped land, and scattered industrial uses generally associated with oil production. Figures 1-3 and 1-4 illustrate the Kern County General Plan land use designations and Kern County zoning classifications, respectively, for the Project site and its surroundings.



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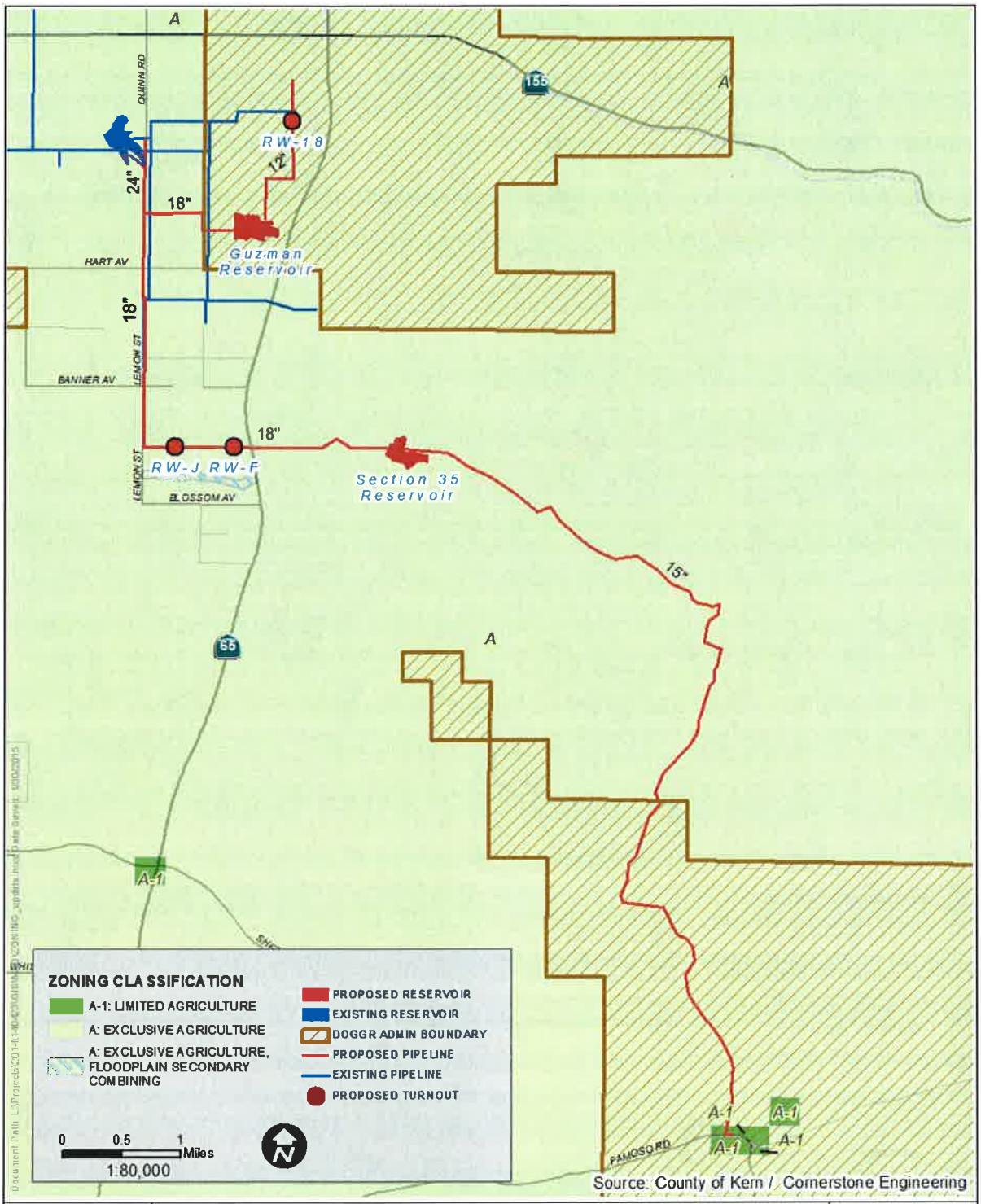
General Plan Land Use Designations

Figure 1-3



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Zoning Classifications

Figure 1-4

1.3.3 PROJECT LOCATION

The approximately 85-acre Project site is located in unincorporated Kern County, approximately 30 miles north of Bakersfield, 12 miles east of Delano, and 24 miles south of Porterville, near the intersection of State Route (SR) 155 and SR-65 (see Figure 1-2).

1.4 Proposed Project

1.4.1 PROJECT FACILITIES

The produced water would first be treated to remove residual hydrocarbons before it leaves the oil fields so that it is suitable for agriculture, wildlife, and livestock. As discussed in greater detail below (see Section 3.3.4, "Water Quality"), the water collection and treatment facilities within the subject oil fields already exist and no new facilities, or expansion of existing facilities, would be required as a result of the Project. The treated water would then be transported from the Dyer Creek and Mount Poso oil fields through a proposed 15-inch underground pipeline to the Section 35 Reservoir with approximately 820 AF of storage capacity. Water from the Jasmin oil field would be transported through a proposed 12-inch underground pipeline to the Guzman Reservoir with approximately 590 AF of storage capacity. The storage capacity of the reservoirs is necessary because produced water is provided at a constant flow rate all year long and there is little agricultural irrigation demand in the winter than in the summer and other seasons. From the two new reservoirs, water would be transported in 18- and 24-inch pipelines to the District's existing Big 4 Reservoir, from which it would be distributed to irrigated cropland or to nearby rangeland within the District.

Figure 1-2 shows a conceptual site plan of the proposed 12-, 15-, 18-, and 24-inch pipelines; three agricultural turnouts (RW-18, RW-F, and RW-J); and the Section 35 and Guzman Reservoirs.

Pipelines

The District would construct a 15-inch buried pipeline from the Oil Producers' properties (near Farmoso/Woody Road) in the Dyer Creek and Mount Poso oil fields to the proposed Section 35 Reservoir (see Figure 3-2). The 15-inch pipeline is approximately 8.5 miles in length and would be buried predominantly under an existing private dirt road and a small portion within grazed rangeland. The District has selected an alignment and profile that would allow the produced water to flow by gravity from the Oil Producers' properties in the Dyer Creek and Mount Poso oil fields to the Section 35 Reservoir. Because the current 15-inch pipeline alignment would be gravity fed, a booster pump is not anticipated to be required to get the water from the discharge point at the Oil Producers' properties to the Section 35 Reservoir.

From the Section 35 Reservoir, additional 18- and 24-inch pipelines would be constructed in order to convey the produced water from the Section 35 Reservoir to the District's existing Big 4 Reservoir and the proposed Guzman Reservoir (see Figure 3-2). The 18- and 24-inch pipelines are approximately 4.0 and 0.75 miles in length, respectively. The construction of an 18-inch section of pipe would require boring underneath SR-65 using jack-and-bore techniques.

The District would also construct a 12-inch buried pipeline from the Oil Producer's properties in the Jasmin oil field to the proposed Guzman Reservoir (see Figure 3-2). The 12-inch pipeline is approximately 1.5 miles in length and would be buried under existing private dirt roads. The District has selected an alignment and profile that would allow the produced water to be pumped from the Oil Producer's property to the Guzman Reservoir using an existing booster pump. From the Guzman Reservoir, an additional 18-inch pipeline would be constructed in order to convey the produced water from the Guzman Reservoir to the District's Big 4 Reservoir; this 18-inch pipeline is approximately 0.75 mile in length.

As a result of the Project, the total length of pipelines would be approximately 15.5 miles in length and buried at least 3 feet with cover.

Turnouts

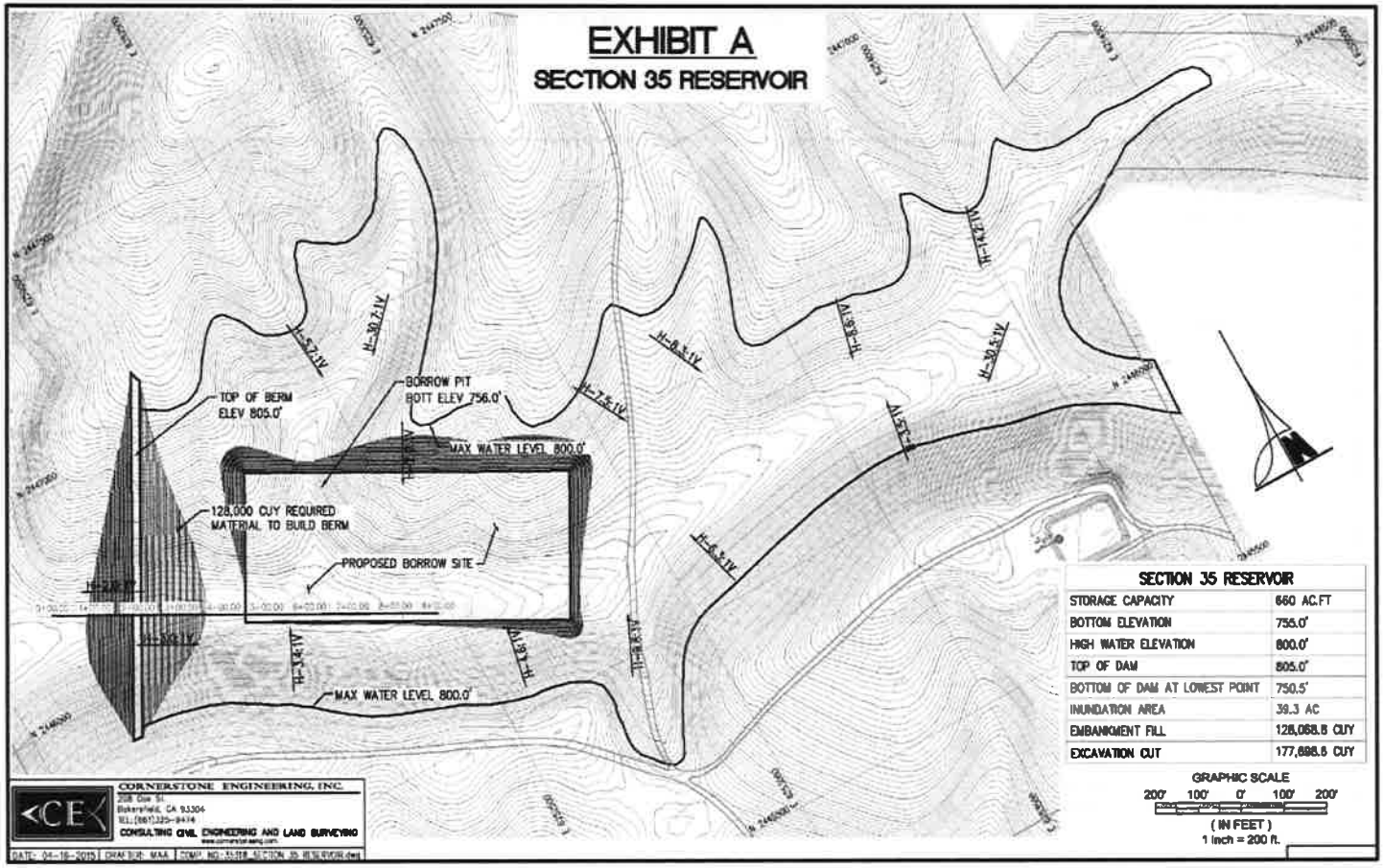
As part of the Project, three new turnouts (RW-18, RW-F, and RW-J) would be constructed to convey produced water to existing private irrigation basins in the District service area (see Figure 3-2). The turnouts would consist of a "butterfly" valve and meter from the proposed 12- and 18-inch pipelines. Approximately 40 linear feet of pipe would connect the 12- and 18-inch pipelines to the turnouts at the existing irrigation basins.

Reservoir Sites

The District proposes to construct two new reservoirs, the Section 35 and Guzman Reservoirs, as the storage locations for the produced water (see Figure 3-2). The proposed Section 35 Reservoir would have a capacity of approximately 820 AF and would require the construction of an approximately 50-foot-high earthen embankment (see Figure 3-5). The proposed Guzman Reservoir would have a capacity of approximately 590 AF and would require the construction of an approximately 46-foot-high primary and 10-foot-high secondary embankment (see Figure 3-6). The District needs an additional 1,410 AF of capacity to meet storage requirements due to the anticipated constant delivery of the produced water, and because the District would store the produced water until it is needed in the summer months when agricultural demand is at its peak. Produced water would be discharged into the two new reservoirs and delivered to either the new agricultural turnouts or the existing District reservoir for delivery to District constituents using the District's existing distribution system.

Due to the nature of the produced water, there may be an accumulation of residual amounts of hydrocarbons in the new reservoirs, and occasional clean up may be required. The Project may also include installed oil booms to collect the accumulated hydrocarbons within the new reservoirs.

The Section 35 Reservoir and portions of the Guzman Reservoir are outside the District's current boundary and the District would seek annexation of this area into the District through the Kern County Local Area Formation Commission (LAFCo) as well as inclusion of this area into the District service area through the Reclamation process.



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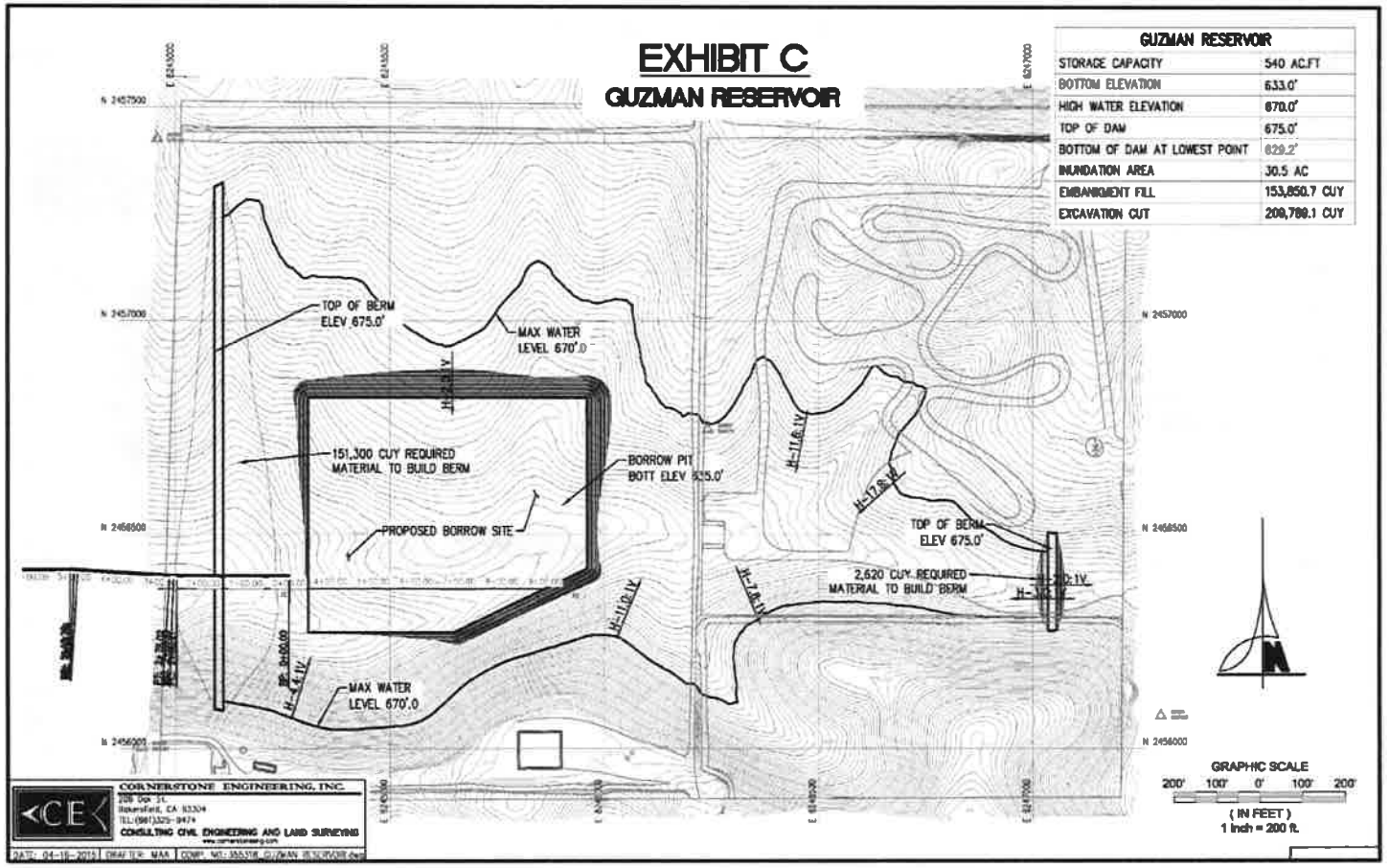
Section 35 Reservoir

Figure 1-5



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Guzman Reservoir

Figure 1-6

1.5 Project Objectives

CEQA Guidelines Section 15124(b) requires that a project description contain a statement of the objectives that includes the underlying purpose of a project. The objectives of the Project are as follows:

- Develop a water delivery system (i.e., pipelines) to convey nearby oil field water produced as a byproduct of oil production (i.e., produced water) to the District for irrigation purposes on agricultural lands within the District and nearby rangelands.
- Develop a water storage system (i.e., reservoirs) to store produced water conveyed throughout the year for use principally during peak irrigation water demand in the summer months.
- Develop District infrastructure (i.e., additional pipelines and agricultural turnouts) in order to deliver irrigation water to District constituents.
- Stabilize the District's water supply and reduce the District's reliance on increasingly unreliable Central Valley Project and City of Bakersfield surface water deliveries.
- Reduce reliance on groundwater extraction within the District from private groundwater wells during periods of reduced surface water deliveries in order to improve sustainable groundwater levels that underlie the District.
- Provide Oil Producers with a produced-water disposal alternative to injecting the water back into the underground aquifer using injection wells.
- Conserve and put to beneficial use available water supplies.
- Reduce electrical load required to make irrigation water deliveries.

1.6 Decisions, Approvals, and Permits Required

The District, as Lead Agency, has primary discretionary authority over the Project. There are also Responsible Agencies that are "public agencies other than the Lead Agency which have discretionary approval power over the [P]roject" (CEQA Guidelines Section 15381). To implement this Project, the following list of decisions, approvals, and permits would be required for the Project by the District and Responsible Agencies:

- Kern-Tulare Water District Board of Directors—Consideration and certification of final EIR with appropriate findings (CEQA Guidelines Section 15091 and 15093), and mitigation and monitoring program;
- U.S. Bureau of Reclamation—Inclusion approval and provide grant funding;
- Kern County LAFCo—Annexation certification;
- U.S Army Corps of Engineers—Section 404 permit;
- Department of Water Resources, Division of Safety of Dams—Approval of plans and specifications for the construction of dams and reservoirs;
- State Water Resources Control Board—Stormwater Pollution Prevention Plan (SWPPP) and construction-related National Pollution Discharge Elimination System (NPDES) general construction permit;
- California Department of Fish and Wildlife—Section 1600 Lake and Streambed Alteration permit;

- Central Valley Regional Water Quality Control Board—Waste Discharge Requirements and Section 401 permit; and
- California Department of Transportation—Highway encroachment permit.

Other additional permits or approvals from Responsible Agencies may be required for the Project.

1.7 CEQA-Plus Requirements

The District may pursue funding through the SWRCB State Revolving Fund (SRF) Loan Program. As a water recycling project, this Project may be eligible for SRF funding. Since the SRF includes federal funds, SWRCB must ensure that federal agencies are afforded adequate review of environmental documents for projects what would be (even partially) federally funded. In order to comply with the requirements of the SRF Loan Program, a project's environmental document must fulfill additional requirements known as "CEQA-Plus."

As described in the SWRCB *Environmental Review Process Guidelines for State Revolving Fund Loan Applications* (SWRCB 2004), CEQA-Plus requires compliance with:

- **Federal Endangered Species Act**—Applicants would need to provide SWRCB with any species lists, biological assessments, and other documents that disclose information on a project's effect on sensitive species at the earliest date. SWRCB would confer informally with the U.S. Fish and Wildlife Service (USFWS) and/or National Marine Fisheries Service (NMFS), as appropriate. If there are federally-listed species that may be affected by a project, either directly or indirectly, SWRCB would evaluate the extent of any impacts as part of its environmental review process and submit its findings to the USFWS/NMFS.
- **Federal General Conformity Rule for the Federal Clean Air Act**—A federal Clean Air Act general conformity analysis applies only to projects in a nonattainment area or an attainment area subject to a maintenance plan and is required for each criteria pollutant for which an area has been designated nonattainment or maintenance. If a project's emissions are below the "de minimis" level and are less than 10% of the areas inventory specified for each criteria pollutant in a nonattainment or maintenance area, further general conformity analysis is not required. A conformity determination must be made if emissions from project facilities are above "de minimis" thresholds established for the area.
- **National Historic Preservation Act**—Applicants for SRF funds are required to demonstrate to the satisfaction of the State Historic Preservation Officer (SHPO) that the project complies with Section 106 of the National Historic Preservation Act. Development of an Area of Potential Effects (APE) map is a critical first step that requires SHPO consultation. SWRCB would consult with the SHPO to determine if: 1) background research for cultural resources and 2) Native American consultation is required under Section 106.

Because the Project must already comply with National Environmental Policy Act (NEPA) (see below), this EIR and the associated Environmental Assessment/Findings of No Significant Impact (EA/FONSI) for the Project (Reclamation is the Lead Agency for this Project under

NEPA) includes documentation in order to comply with the federal Endangered Species Act, General Conformity Rule for the federal Clean Air Act, and Section 106 of the National Historic Preservation Act as required by CEQA-Plus.

1.8 National Environmental Policy Act Compliance

Due to the inclusion approval, a discretionary action required by Reclamation, the Project must comply with the requirements of the National Environmental Policy Act (NEPA). The District has contacted Reclamation and it has been determined that the appropriate NEPA documentation for the Project is an EA that will likely result in a FONSI. NEPA documentation for this Project will be prepared concurrently with the CEQA documentation under separate cover.

1.9 Environmental Impacts

CEQA Guidelines Section 15128 requires that an EIR contain a brief statement indicating the reasons why any new and possibly significant effects of a project were determined not to be significant and therefore, were no discussed in detail in the EIR.

The contents of this EIR were established based on a Notice of Preparation/Initial Study (NOP/IS) prepared in accordance with the CEQA Guidelines as well as public and agency input that was received during the NOP/IS scoping process. Those specific environmental issue areas that are found to have no impact or less-than-significant impact as a result of the Project during preparation of the NOP/IS do not need to be addressed further in the EIR. The following provides those environmental issue areas that we determined to have no impact or a less-than-significant impact during the NOP/IS scoping process and therefore, are not further considered in this EIR.

1.9.1 IMPACTS NOT FURTHER CONSIDERED IN THIS EIR

As discussed in Appendix A of this EIR, the Project was determined to have no impact or a less-than-significant impact to the following environmental issue areas and therefore, impacts to these issue areas were not further considered in the EIR:

- Land use and planning;
- Population and housing;
- Public services; and
- Recreation.

1.9.2 IMPACTS OF THE PROJECT

Sections 4.1 through 4.13 in Chapter 4, "Environmental Setting, Impacts, and Mitigation Measures," of the EIR provide a detailed discussion of the environmental setting, impacts associated with the Project, and mitigation measures designed to reduce significant impacts to less-than-significant levels when feasible. The impacts, mitigation measures, and residual impacts for the Project are summarized in Table 1-3. at the end of this chapter, and are discussed briefly below.

Less-than-Significant Impacts

The EIR concluded that the Project would have a less-than-significant impact on the following environmental issue areas:

- Aesthetics;
- Agriculture and Forestry Resources; and
- Mineral Resources.

Significant Impacts That Can Be Mitigated to Less than Significant

The EIR concluded that the Project would have a significant impact on the following environmental issue areas, but that incorporation of mitigation would reduce these potentially significant impacts to less than significant:

- Air Quality;
- Biological Resources;
- Cultural Resources;
- Geology and Soils;
- Greenhouse Gas Emissions;
- Hazards and Hazardous Materials;
- Hydrology and Water Quality;
- Noise;
- Transportation and Traffic; and
- Utilities and Service Systems.

Significant and Unavoidable Impacts

CEQA Guidelines Section 15126.2(b) requires that the EIR describe any significant and unavoidable impacts, including those that can be mitigated but not reduced to less-than-significant levels. The EIR concluded that all potentially significant impacts of the Project can be reduced to a level of less than significant through the incorporation of mitigation. The Project would not result in any significant and unavoidable impacts.

Significant Irreversible Environmental Changes

Pursuant to CEQA Guidelines Section 15126.2(c), an EIR must consider any significant irreversible environmental changes that would be caused by a project, should it be implemented. Section 15126.2(c) reads as follows:

> Uses of nonrenewable resources during initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts and, particularly, secondary impacts (such as highway improvement which provides access to a previously inaccessible area) generally commit future generation to similar uses. Also, irretrievable damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.

The Project would require the use of a finite amount of nonrenewable resources for its physical construction. In addition, limited amounts of fuel would be used in the construction phase. However, the Project would not use an uncommon amount of nonrenewable construction materials or fuels compared to the amount used by other projects of similar scope and magnitude. The commitment of construction materials and fuels during construction would not make such materials and fuels unavailable for future generations. Construction of the Project would also not cause irretrievable damage from environmental accidents because the Project would not require acutely or extremely hazardous materials or result in conditions that could cause such a catastrophic environmental accident.

Operations would also require nonrenewable construction materials and fuels, as needed, for maintenance, but would not be uncommon consumption compared to other similar projects. The Project's operations would not preclude the continued extraction of oil in the area or hinder the removal of other nonrenewable resources (such as aggregate materials) or require a large commitment of such resources that would make such materials and fuels unavailable for future generations. Also, operation of the Project would not cause irretrievable damage from environmental accidents because the Project would convey produced water that has been deemed suitable for agricultural and livestock purposes.

In conclusion, the Project would not significantly increase the consumption of nonrenewable resources or significantly commit future generations to unnecessary exploitation of nonrenewable resources. While various natural resources, such as construction materials and fuels would be used for the Project, the use of these resources, relative to other similar projects, would not result in substantial resource depletion.

Significant Cumulative Impacts

Section 15126.2(b) of the CEQA Guidelines requires an EIR to describe any significant impacts, including those that can be mitigated but not reduced to less-than-significant levels. The potential environmental effects of the Project as well as the proposed mitigation measures are discussed in detail in Chapter 4, "Environmental Setting, Impacts, and Mitigation Measures," of this EIR.

After analysis and review, as provided in this EIR, it was determined that none of the project-level and/or cumulative impacts for the environmental issue areas (in accordance with Appendix G of the CEQA Guidelines) would be significant and unavoidable.

Growth-Inducing Impacts

CEQA Guidelines Section 15126.2(d) states that an EIR should:

> Discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which remove obstacles to population growth.

The Project is the development of a water delivery and storage system that consists of various sized underground pipelines, three agricultural turnouts, and two new reservoirs with a total storage capacity of 1,310 AF. The 5,820 AF per year of water delivered and stored as a result of

the Project would be used for irrigation purposes and to improve nearby rangeland, and would not be used for potable water purposes. Aside from a portion that would be used to improve nearby rangelands, most of the water would be directly delivered to the southeast portion of the District, which includes approximately 4,300 acres of oranges, grapes, lemons, grapefruit, and pistachios. One of the primary purposes of the Project is to stabilize the District's water supply and reduce the District's reliance on increasingly unreliable Central Valley Project and City of Bakersfield surface water deliveries.

The construction of the Project would require a temporary work force. Construction workers would be expected to travel to the site from various locations in the region, and the number of worker relocations to the surrounding area is not expected to be substantial. It is anticipated that the current available work force in the region is adequate to construct the Project. If temporary housing should be necessary, accommodations would be available in nearby communities, such as Delano, McFarland, Shafter, and Bakersfield. Therefore, construction of the Project would not be growth inducing.

The Project does not propose the development of residences or businesses that would directly induce population growth, nor other infrastructure that would indirectly foster growth or remove an obstacle to growth such as roads, potable water pipelines, water or wastewater treatment plant expansions, etc. The Project provides a supplemental source of irrigation water to existing farmland and rangeland. The Project also does not displace any existing housing or displace any people, necessitating the construction of replacement housing elsewhere.

From an economic perspective, the Project does not foster economic growth. As discussed above, one of the primary purposes of the Project is to stabilize the District's water supply and reduce the District's reliance on increasingly unreliable surface water deliveries. The District constituent's current annual agricultural water demand is approximately 52,000 AF, of which approximately 38,000 AF is provided by the District. However, in some years, this amount is greatly reduced due to reduced surface water deliveries. The remaining 14,000 AF is from groundwater pumped by individual water users in the District. The 5,810 AF per year of water delivered and stored as a result of the Project would help to offset reduced surface water deliveries or to reduce the amount of groundwater pumped annually, which would reduce the economic cost of energy to pump water from the ground for the individual water users, but this cost would be largely offset by the increased cost of purchasing the additional 5,810 AF of available water.

Therefore, the Project's operation does not induce substantial population or economic growth in the Project area, either directly or indirectly and there would be no growth-inducing impact.

1.10 Project Alternatives

CEQA Guidelines Section 15126.6 states that an EIR must address "a range of reasonable alternatives to the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives." Several alternatives were considered as summarized below and discussed in detail in Chapter 7, "Alternatives," of the EIR.

1.10.1 ALTERNATIVES ELIMINATED FROM FURTHER CONSIDERATION

Alternatives may be eliminated from detailed consideration in an EIR if they fail to meet most of the Project objectives, are infeasible, or do not avoid or substantially reduce any significant environmental effects (CEQA Guidelines Section 15126.6[c]). Alternatives that are remote or speculative, or the effects of which cannot be reasonably predicted, also do not need to be considered (CEQA Guidelines Section 15126[f][2]). Per CEQA, the lead agency may make an initial determination as to which alternatives are feasible and warrant further consideration, and which are infeasible. The following alternatives were initially considered but were eliminated from further consideration in this draft EIR because they do not meet project objectives, are infeasible, do not reduce any environmental effects in comparison to the Project, or are remote or speculative.

Increased Surface Water Deliveries Alternative

The Increased Surface Water Deliveries Alternative would involve the District obtaining additional entitlements from the Central Valley Project, City of Bakersfield, and/or other purveyor for water deliveries beyond what is currently provided to the District in order to receive the up to 5,820 acre-feet (AF) per year of additional water that would be provided as a result of the Project. This alternative would partially meet the Project objective of stabilizing the District's water supply, but would not reduce the District's reliance on increasingly unreliable Central Valley Project and City of Bakersfield surface water deliveries. This alternative would also meet the objective of reduced reliance on groundwater extraction within the District from private groundwater wells. However, this alternative would not develop a water delivery and storage system to convey and store produced water; develop District infrastructure in order to deliver irrigation water to District constituents; provide Oil Producers with a produced-water disposal alternative; conserve and put to beneficial use available water supplies; or reduce electrical load required to make irrigation water deliveries.

This alternative would also not put to beneficial use available water supplies, namely produced water as a result of oil extraction. In light of the fact that the Division of Oil, Gas & Geothermal Resources (DOGGR) has ordered the shutdown of a number of wastewater injection wells in Kern County, the need for an alternative to injecting the water back into the underground aquifer using injection wells as a means of disposing of produced water is becoming increasingly more important.

This alternative would not reduce electrical loads required to make irrigation water deliveries because without the development of the turnouts as part of the Project, the District would continue to require pumping in order to serve its constituents that would benefit from the development of the turnouts. It is also assumed that increased water surface water deliveries would require additional energy to convey additional water to the District.

Given that one of the primary Project objectives is to reduce the District's reliance on increasingly unreliable Central Valley Project and City of Bakersfield surface water deliveries, it is remote or speculative to assume that these entities, and/or another purveyor, would have the capacity or desire to provide additional entitlements to the District, especially in light of the already reduced reliability existing contracts. The fact that the District is looking for an

alternative to surface water deliveries because of increased uncertainty and reduced deliveries of their existing entitlements, it is highly unlikely that the District would be able to secure additional entitlements, and especially comparable with the up to 5,820 AF per year of water that would be available as a result of the Project.

Because this alternative would not meet most of the Project objectives and is remote or speculative, this alternative has been eliminated from further consideration per CEQA Guidelines Sections 15126.6(c) and Section 15126(f)(2).

Increased Groundwater Pumping Alternative

The Increased Groundwater Pumping Alternative would involve the increased pumping of groundwater from the aquifers that underlie the District using private wells in order to receive the up to 5,820 AF per year of additional irrigation water that would be provided as a result of the Project. This alternatives does not meet any of the Project objectives in that it would not develop a water delivery and storage system to convey and store produced water; develop District infrastructure in order to deliver irrigation water to District constituents; stabilize the District's water supply; reduce reliance on groundwater extraction; provide Oil Producers with a produced-water disposal alternative; conserve and put to beneficial use available water supplies; or reduce electrical load required to make irrigation water deliveries.

This alternative would actually increase reliance on groundwater extraction and, more importantly, not result in the benefit of reducing reliance on groundwater extraction within the District from private groundwater wells during periods of reduced surface water deliveries in order to improve sustainable groundwater levels that underlie the District. The Project would likely result in a beneficial impact to the aquifers that underlie the District and likely result in a further rising of the local groundwater table level while this alternative would likely result in a significant and unavoidable impact to groundwater levels as a result of lowering of the levels that underlie the District.

This alternative would also not put to beneficial use available water supplies, namely produced water as a result of oil extraction. In light of the fact that DOGGR has ordered the shutdown of a number of wastewater injection wells in Kern County, the need for an alternative to injecting the water back into the underground aquifer using injection wells as a means of disposing of produced water is becoming increasingly more important.

Finally, this alternative would not reduce electrical loads required to make irrigation water deliveries and, in fact, would increase them substantially because of the increased electrical load needed to pump additional water from the aquifers that underlie the District. Energy consumption takes a double hit because, in comparison to the Project, the Oil Producers would have to continue the practice of injecting the produced water back into the ground, which also requires a vast amount of energy. This increased consumption of electricity as a result of this alternative would increase air quality and greenhouse gas emissions (GHG) due to the anticipated production of the additional load at an emission-producing power plant, which would result in a greater impact on air and GHG emissions in the air basin in comparison to the Project.

Because this alternative would not meet any of the Project objectives, this alternative has been eliminated from further consideration per CEQA Guidelines Section 15126.6(c).

Other Site Alternative

The Other Site Alternative would result in a produced water delivery and storage system similar to the Project that would deliver produced water from the Jasmin, Dyer Creek, and Mount Poso oil fields to existing and proposed District facilities in order to provide a supplemental supply of water to serve the District's customers for irrigation purposes and to improve nearby rangeland. The storage capacity would be the same at 1,410 AF and up to 5,820 AF per year of produced water is still anticipated to be delivered as a result of this alternative. The siting of the needed reservoir(s) would be different than the Project; this alternative could include the development of just one large reservoir or there could be more than two reservoirs in order to achieve the 1,410 AF of capacity. The pipeline alignments could also be different depending on the placement of the reservoir(s) sites. The three agricultural turnouts would still be developed at the same locations as the Project and therefore, pipeline alignments near these turnouts would be similar to the Project for this alternative. This alternative would likely meet all the Project objectives. However, depending on the placement of the reservoir(s) and pipeline alignments, this alternative may not reduce electrical load required to make irrigation water deliveries because, unlike the Project that would be completely gravity-fed and therefore, not require energy during operation, the alternative placement of the reservoir(s) and pipeline alignments may not allow this alternative to deliver water completely by gravity and, as a result, require the use of pumping and associated energy consumption.

Because this alternative would deliver and store produced water from the same oil fields to existing and proposed District facilities that are in the same locations as the Project, this alternative would be generally in the same geography as the Project, namely in rolling rangeland and agricultural land. Like the Project, opportunities and constraints as a result of that geography would be similarly imposed on this alternative. Placing a portion of pipeline under State Route 65 and obtaining the necessary encroachment permit would also have to occur under this alternative. Other physical (e.g., geology, biology, and hydrology) and regulatory constraints (obtainment of necessary permits and approvals) would be similar for this alternative as the Project.

The District has had discussions with landowners to purchase the necessary land, place easements, and obtain other rights to construct and operate the Project. Each of these owners has expressed support for the Project and a willingness to cooperate in the sale of their property with the District. The District early on in the process had over five possible reservoir sites and over three different pipeline alignment options. The reservoir site options were reduced to the two current sites as part of the Project because owners of the other possible sites were not willing to sell the land to the District or were asking for compensation that was out-of-line with the current value of the land, in which event costly and potentially lengthy eminent domain process would be required to acquire the sites. A number of pipeline options were eliminated from further consideration because necessary reservoirs sites were not available to make the pipeline options work or there were fatal flaws detected early on for some of the options, such as traversing through known or highly likely blunt-nosed leopard lizard habitat. The current pipeline alignment from the Dyer Creek and Mount Poso oil fields was ultimately chosen because it would be placed largely within an existing road that would reduce environmental impacts (particularly construction-related biological impacts) due to its already disturbed nature and because the road's alignment already allows for a gravity-fed pipeline from the oil fields to the

proposed Section 35 Reservoir. The other pipeline alignment options considered by the District would have required the use of pumps, which would have increased energy consumption in comparison to the Project.

Because this alternative would not avoid or substantially lessen any significant environmental effects or, because the Project already does not result in any significant environmental effects, appreciably reduce any environmental effects in comparison to the Project, this alternative has been eliminated from further consideration per CEQA Guidelines Section 15126.6(c).

Trucked Produced Water Alternative

The Trucked Produced Water Alternative would involve transporting produced water from the Jasmin, Dyer Creek, and Mount Poso oil fields to the existing District-owned Big 4 Reservoir, Cecil Reservoir, and Avenue 24 Reservoir using water tank trucks. The proposed pipeline alignments, two reservoirs, and three agricultural turnouts would not be developed as a result of this alternative. Instead, this alternative would use the existing capacity in the District-owned reservoirs to store produced water and use the District's existing delivery facilities to distribute the produced water to its customers for irrigation purposes. The capacity of the existing reservoirs continually fluctuate as a result of in-coming deliveries of entitlement water and out-going deliveries to District customers, but the maximum capacity to store produced water is far less than the anticipated up to 5,820 AF per year that would be delivered as a result of the Project. Therefore, this alternative would result in the ability to store and distribute less produced water than the Project. This alternative would meet the objective of helping stabilize the District's water supply; reduce reliance on groundwater extraction; provide Oil Producers with a produced-water disposal alternative; and conserve and put to beneficial use available water supplies, but not to the same extent as the Project. This alternative would not meet the objective of developing a water delivery and storage system to convey and store produced water; developing District infrastructure in order to deliver irrigation water to District constituents; or reduce electrical load required to make irrigation water deliveries.

This alternative would not reduce electrical loads required to make irrigation water deliveries because without the development of the turnouts as part of the Project, the District would continue to require pumping in order to serve its constituents that would benefit from the development of the turnouts. It is also assumed that the use of water tank trucks would require the creation of additional fuels in refineries that require energy consumption and energy use for the maintenance of such trucks.

With respect to truck trips required to deliver produced water from the oil fields to existing reservoirs, in a worst case, it is assumed for this analysis that the reservoirs have the capacity to accommodate the 5,820 AF per year of produced water. Water tank trucks generally have a capacity of between 4,000 and 10,000 gallons. At 4,000 gallons per trip, delivering 5,820 AF per year of produced water from the oil fields would require approximately 1,299 one-way truck trips[1] everyday for 365 days per year. At 10,000 gallons per trip, delivering 5,820 AF per year of

[1]5,820 AF/year X 325,851 gallons = (1,896,452,820 gallon/year)/4,000 gallons/one-way truck trip = (474,113 one-way truck trip/year)/365 days/year = 1,299 one-way truck trip/day at 365 days/year

produced water would require approximately 520 one-way truck trips[2] everyday for 365 days per year. In an 8-hour work day, this would mean that approximately 162 and 65 4,000- and 10,000-gallon water tank trucks, respectively, would need to be filled up each hour at the oil fields and dumped at the existing reservoirs during an 8-hour work day, 7 days a week in order to deliver 5,820 AF of produced water per year, which is logistically infeasible. The fuel and water tank truck rental costs would also make this alternative economically infeasible. Also, the addition of between 1,299 and 520 one-way trips (or 2,598 and 1,040 two-way trips) 365 days per year on local, rural roads would cause a degradation in the level-of-service on these roads that would likely result in a significant and unavoidable traffic impact during the operational period for this alternative.

Because this alternative is infeasible, this alternative has been eliminated from further consideration per CEQA Guidelines Section 15126.6(c).

1.10.2 ALTERNATIVE CONSIDERED IN THIS EIR

A reasonable range of alternatives with the potential to attain most of the basic objectives of the Project but avoid or substantially lessen significant impacts is analyzed below. Each alternative is discussed in relation to the objectives of the Project. The following alternatives are analyzed in detail:

- Alternative 1: No Project and
- Alternative 2: One Reservoir.

Tables 1-1 and 1-2 provide a summary of the alternatives, basis for selection, and relative impacts of each alternative.

Table 1-1
Summary of Alternatives Selected for Analysis

Alternative	Description	Basis for Selection and Summary of Analysis
Alternative 1: No Project	- No development would occur onsite	- Required by CEQA - Results in greater operational air quality, biological resources, GHG emissions, and hydrology and water quality impacts than the Project
Alternative 2: One Reservoir	- Develop the 15-inch pipeline alignment from the Dyer Creek and Mount Poso oil fields to the Section 35 Reservoir	- Meets all of the Project objectives - Feasible - Not remote or speculative - Effects can be predicted

[2]5,820 AF/year X 325,851 gallons = (1,896,452,820 gallon/year)/10,000 gallons/one-way truck trip = (189,645 one-way truck trip/year)/365 days/year = 520 one-way truck trip/day at 365 days/year

Alternative	Description	Basis for Selection and Summary of Analysis
	- Develop the Section 35 Reservoir - Develop the 18- and 24-inch pipeline alignments from the Section 35 Reservoir to the existing Big 4 Reservoir - Develop agricultural turnouts RW-J and RW-F - Would not develop the 12-inch pipeline alignment from the Jasmin oil field to the Guzman Reservoir - Would not develop the Guzman Reservoir Would not develop the 18-inch pipeline from the Guzman Reservoir to the 24-inch pipeline alignment connection - Would not develop agricultural turnout RW-18	- Results in greater operational air quality, GHG emissions, and hydrology and water Quality impacts than the Project

Table 1-2
Comparison of Alternatives

Environmental Resource	Project	Alternative 1: No Project[1]	Alternative 2: One Reservoir[1]
Aesthetics	Less than significant	Similar	Similar
Agriculture and Forestry Resources	No impact	Similar	Similar
Air Quality	Less than significant with mitigation	Greater	Greater
Biological Resources	Less than significant with mitigation	Greater	Similar
Cultural Resources	Less than significant with mitigation	Lesser	Lesser
Geology and Soils	Less than significant with mitigation	Lesser	Lesser
Greenhouse Gas	No impact	Greater	Greater

Environmental Resource	Project	Alternative 1: No Project[1]	Alternative 2: One Reservoir[1]
Emissions			
Hazards and Hazardous Materials	Less than significant with mitigation	Lesser	Lesser
Hydrology and Water Quality	Less than significant with mitigation	Greater	Greater
Mineral Resources	No impact	Similar	Similar
Noise	Less than significant with mitigation	Lesser	Similar
Transportation and Traffic	Less than significant with mitigation	Lesser	Lesser
Utilities and Service Systems	Less than significant	Similar	Similar
Meet Project Objectives?	**Yes**	**No**	**Yes**
Reduce Significant and Unavoidable Impacts?[1]	--	**No**	**No**

[1]It is important to note that this EIR has determined that the Project would not result in any significant and unavoidable environmental impacts. Therefore, comparison of the Project against the alternatives is based on whether an alternative would simply reduce environmental impacts in comparison to the Project. But, even if alternatives result in a lesser impact in comparison to the Project, it would not reduce a significant and unavoidable impact to less than significant because, based in this EIR's analysis, none of the Project's impacts are significant and unavoidable.

Alternative 1: No Project

Pursuant to Section 15126.6(e)(2) of the State CEQA Guidelines, the No-Project Alternative will "...discuss the existing conditions at the time the notice of preparation is published or, if no notice of preparation is published, at the time the environmental analysis is commenced, as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services."

Under Alternative 1: No Project, the proposed pipeline alignments, two reservoirs, and three agricultural turnouts would not be developed. The District would continue to rely on existing surface water entitlements through their existing contracts, groundwater pumping via private wells, and precipitation to provide for the District's approximately 14,000 AF per year current water demand. Approximately 8,000 acres of nearby rangeland would also not be approved as a result of this alternative. The Oil Producers would continue to inject the up to 5,820 AF per year of produced water back into the underground geologic formations with unusable (i.e., non-potable) groundwater that underlie the oil fields.

Alternative 2: One Reservoir

Under Alternative 2: One Reservoir, the Section 35 Reservoir would be developed to store produced water from the Dyer Creek and Mount Poso oil fields, but the Guzman Reservoir would not be developed to store produced water from the Jasmin oil field. Related to the Section 35 Reservoir, the 15-inch pipeline alignment from the Dyer Creek and Mount Poso oil fields to the Section 35 Reservoir, 18- and 24-inch pipeline alignments from the Section 35 Reservoir to the existing Big 4 Reservoir, and agricultural turnouts RW-J and RW-F would be developed as part of this alternative. Related to the Guzman Reservoir, the 12-inch pipeline alignment from the Jasmin oil field to the Guzman Reservoir, 18-inch pipeline from the Guzman Reservoir to the 24-inch pipeline alignment connection, and agricultural turnout RW-18 would not be developed as part of this alternative.

This alternative is a reduced-project alternative and would result in 820 AF (58% of the total capacity of the Project) of proposed storage capacity (the capacity of the Section 35 Reservoir) as opposed 1,410 AF of capacity (the capacity of both the Guzman and Section 35 Reservoirs) for the Project. Using the percentage of the total capacity of this alternative against the total capacity of the Project, it is assumed that up to 3,376 AF per year (or 58% of up to 5,820 AF per year) of produced water can be supplied to District customers and to improve rangeland as a result of this alternative.

1.10.3 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

Under CEQA, an EIR must identify the environmentally superior alternative to the proposed project. The environmentally superior alternative can be the project under consideration.

The environmentally superior alternative is the Project. This is because long-term operational benefits of the Project in comparison to the No-Project Alternative and/or One Reservoir Alternative on air quality and GHG emissions (reduced emissions as a result of energy savings), biological resources (benefits of the Project on migratory birds and other wildlife as a result of creating open water), and hydrology and water quality (groundwater level benefits) outweigh the temporary construction-related impacts of the Project on cultural resources (potential to unearth previously unknown cultural resources or human remains during construction), geology and soils (need to remediate potential geo-hazards), hazards and hazardous materials (potential for accidental release during construction), noise (construction-related noise), and transportation and traffic (construction-related traffic).

1.11 Issues to Be Resolved

Section 15123, subdivisions (b)(2) and (b)(3) of the CEQA Guidelines, requires an EIR to discuss "[a]reas of controversy known to the Lead Agency including issues raised by agencies and the public" and "[i]ssues to be resolved including the choice among alternatives and whether or how to mitigate the significant effects." The major issues to be resolved by the Lead Agency include the following:

- Does the EIR adequately describe the environmental impacts of the Project?
- Should the recommended mitigation measures be adopted or modified?

- Do additional mitigation measures need to be developed?
- Will the Project result in significant and unavoidable impacts to issue areas where there is known controversy?

1.12 Summary of Environmental Impacts and Mitigation Measures

Table 1-3 is a summary of the environmental impacts of the Project and mitigation measures. Refer to the appropriate EIR section for additional information.

Table 1-3
Summary of Impacts, Mitigation Measures, and Level of Significance after Mitigation

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
Aesthetics			
Impact 4.1-1: The Project Would Not Have a Substantial Adverse Effect on a Scenic Vista.	LTS	No mitigation is required.	LTS
Impact 4.1-2: The Project Would Not Substantially Damage Scenic Resources, Including, But Not Limited to, Trees, Rock Outcroppings, and Historic Buildings Within a State Scenic Highway.	LTS	No mitigation is required.	LTS
Impact 4.1-3: The Project Would Not Substantially Degrade the Existing Visual Character or Quality of the Site and its Surroundings.	LTS	No mitigation is required.	LTS
Cumulative	LTS	No mitigation is required.	LTS
Agriculture and Forestry Resources			
Impact 4.2-1: The Project Would Not Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as Shown on the Maps Prepared Pursuant to the Farmland Mapping and Monitoring	NI	No mitigation is required.	NI

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
Program of the California Resources Agency, to Non-Agricultural Use.			
Impact 4.2-2: The Project Would Not Conflict With Existing Zoning for Agricultural Use or a Williamson Act Contract.	NI	No mitigation is required.	NI
Impact 4.2-3: The Project Would Not Involve Other Changes in the Existing Environment Which, Due to Their Location or Nature, Could Result in Conversion of Farmland, to Non-Agricultural Use or Conversion of Forest Land to Non-Forest Use.	NI	No mitigation is required.	NI
Cumulative	NI	No mitigation is required.	NI
Air Quality			
Impact 4.3-1: The Project Would Not Conflict With or Obstruct Implementation of the Applicable Air Quality Plan.	PS	**MM 4.3-1: PM10 REDUCTION MEASURES** During construction, the District shall comply with the following dust control measures to ensure compliance with required Regulation VIII (Fugitive PM10 Prohibitions): • Water previously exposed surfaces (soil) whenever visible dust is capable of drifting from the site or approaches 20% opacity. • Water exposed area three times per day. • Water all unpaved haul roads a minimum of three-times/day or whenever visible dust from such roads is capable of drifting from the site or approaches 20% opacity. • Reduce speed on unpaved roads	LTS

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		to less than 15 miles per hour. • Install and maintain a track out control device that meets the specifications of SJVAPCD Rule 8041 if the site exceeds 150 vehicle trips per day or more than 20 vehicle trips per day by vehicles with three or more axles. • Stabilize all disturbed areas, including storage piles, which are not being actively utilized for production purposes using water, chemical stabilizers or by covering with a tarp or other suitable cover. • Control fugitive dust emissions during land clearing, grubbing, scraping, excavation, leveling, grading, or cut and fill operations with application of water or by presoaking. • When transporting materials offsite, maintain a freeboard limit of at least 6 inches and cover or effectively wet to limit visible dust emissions. • Limit and remove the accumulation of mud and/or dirt from adjacent public roadways at the end of each workday. (Use of dry rotary brushes is prohibited except when preceded or accompanied by sufficient wetting to limit visible dust emissions and use of blowers is expressly forbidden).	
Impact 4.3-2: The Project Would Not Violate Any Air Quality Standard or Contribute Substantially to	PS	Implement Mitigation Measure MM 4.3-1.	LTS

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
an Existing or Projected Air Quality Violation.			
Impact 4.3-3: The Project Would Not Result in a Cumulatively Considerable Net Increase of Any Criteria Pollutant for Which the Project Region is Non-Attainment Under an Applicable Federal or State Ambient Air Quality Standard (Including Releasing Emissions Which Exceed Quantitative Thresholds for Ozone Precursors).	PS	Implement Mitigation Measure MM 4.3-1.	LTS
Impact 4.3-4: The Project Would Not Expose Sensitive Receptors to Substantial Pollutant Concentrations.	PS	Implement Mitigation Measure MM 4.3-1.	LTS
Cumulative	NI	No mitigation is required.	NI
Biological Resources			
Impact 4.4-1: The Project Would Not Have a Substantial Adverse Effect, Either Directly or Through Habitat Modifications, On Any Species Identified as a Candidate, Sensitive, or Special Status Species in Local or Regional Plans, Policies, or Regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.	PS	**MM 4.4-1: PRECONSTRUCTION SURVEYS AND AVOIDANCE BUFFERS** No less than 14 days and no more than 30 days prior to the inception of any Project-related activity throughout the entire construction period, preconstruction surveys shall be conducted by a qualified biologist. If any evidence of occupation of the Project site by special-status species is observed, the following buffers shall be established by the biologist that results in sufficient avoidance to comply with applicable regulations: • San Joaquin kit fox or American badger potential den: 50 feet;	LTS

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation

- San Joaquin kit fox or American badger known den: 100 feet;
- San Joaquin kit fox or American badger pupping den: contact U.S. Fish and Wildlife Service and California Department of Fish and Wildlife;
- Burrowing owl burrow: see table below;
- Protected raptor nest during breeding season: 500 feet or as recommended by qualified biologist;
- Protected migratory bird during breeding season: as recommended by qualified biologist; and
- Other special-status wildlife species: as recommended by qualified biologist.

Burrowing Owl Burrow Buffers

Location	Time of Year	Level of Disturbance		
		Low	Medium	High
Nesting sites	Apr 1 – Aug 1	656 feet	1,640 feet	1,640 feet
Nesting sites	Aug 1 – Oct 15	656 feet	656 feet	1,640 feet
Any occupied burrow	Oct 16 – Mar 31	164 feet	328 feet	1,640 feet

CDFW 2012.

If sufficient avoidance buffers cannot be established, the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife shall be contacted for further guidance and consultation on additional measures.

Bald Eagles and Raptors

Specific to bald eagle and other raptors, the qualified biologist shall

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		conduct surveys on and within 500 feet of an activity site for active raptor nests prior to onsite activities. If raptors are found to occur, their active nest shall be avoided by 500 feet. The 500-foot, no-disturbance area can be reduced if it is determined by a qualified biologists that activities do not affect breeding success. If found to occur, active golden eagle nests shall be avoided by 1 mile and activities shall not occur within line-of-sight of active nests. **Migratory Birds** Specific to other migratory birds protected by the Migratory Bird Treaty Act, the qualified biologist shall conduct the survey for active bird nests at an activity site if activities at the site are scheduled to occur during the breeding season (February 15 through September 15). The survey shall include the site and no less than 500 feet outside of site boundaries. If active nests are located within the site boundaries, construction activities shall be restricted as necessary to avoid disturbance of the nest until it is abandoned or a qualified biologist deems disturbance potential to be minimal (in consultation with U.S. Fish and Wildlife Service and California Department of Fish and Wildlife). Restrictions may include establishment of avoidance buffers (no ingress of personnel or equipment at a minimum radius of 50 feet or more around the nest as	

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		recommended by the biologist) or alteration of the construction schedule. All observed nests shall be monitored by a qualified biologist to determine nest status and the potential for nest abandonment. **Burrowing Owl** Specific to burrowing owls, a qualified biologist shall conduct surveys for burrowing owl according to the *Staff Report on Burrowing Owl Mitigation* (CDFW 2012) and B*urrowing Owl Survey Protocol and Mitigation Guidelines* (California Burrowing Owl Consortium 1993). Pre-activity surveys of an activity area and a 500-foot perimeter of the activity area shall be conducted. If burrowing owls are present on an activity site (or within 250 feet of the activity site) during the breeding season (February 1 through August 31), a buffer (see table above) shall be established between the nest site or active burrow and any earth-moving activity or other potential disturbance. This buffer may be removed once it is determined by the qualified biologist that the young have fledged and are no longer dependent on the nest or burrow for survival. Typically, the young fledge by August 31. Actual fledging dates may be earlier or later, and shall be determined by the qualified biologist. Buffer distances may be reduced on an	

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		activity-by-activity basis and with the guidance of the qualified biologist and prior approval by the California Department of Fish and Wildlife. The standard buffer distances shall only be reduced to a size that retains "no disturbance" to burrowing owls. **San Joaquin Kit Fox** Specific to San Joaquin kit fox, the qualified biologist shall implement *Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance* (USFWS 2011). These include the following: Pre-activity surveys shall be conducted prior to the beginning of activities likely to impact the San Joaquin kit fox. If any evidence of site occupation by San Joaquin kit fox is observed, an avoidance buffer (see above) shall be established by a qualified biological monitor. If dens must be removed, they must be monitored for a minimum of three consecutive nights using cameras or tracking medium to determine kit fox use. If there is no kit fox activity for three consecutive nights, dens may be collapsed. If dens are actively being used by kit fox, no collapse of the den is permitted until all individuals have vacated the den. Destruction of natal dens and other "known" kit fox dens must not occur until authorized by U.S. Fish and Wildlife Service. Once kit foxes have been confirmed to have vacated the den, and U.S. Fish	

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		Wildlife Service approval has been obtained, dens may subsequently be hand excavated by a trained wildlife biologist. Replacement dens must be constructed in suitable habitat outside of the activity area. Kern-Tulare Water District shall appoint a representative to be the point of contact for any employee or contractor who might inadvertently kill or injure a kit fox, or who finds a dead, injured, or entrapped individual. The point of contact's name and telephone number shall be provided to the U.S. Fish Wildlife Service and California Department of Fish and Wildlife. If any kit fox is inadvertently injured or killed during construction or operations, all work shall immediately stopped until the cause of injury is determined, and a plan to avoid any additional injury has been implemented in consultation with the qualified biologist and the U.S. Fish Wildlife Service and California Department of Fish and Wildlife. Any operator, or representative, contractor or subcontractor who inadvertently kills or injures a San Joaquin kit fox shall immediately report the incident to their point of contact. The point of contact shall contact the USFWS and CDFW immediately in the case of a dead, injured or entrapped kit fox. The CDFW contact for immediate assistance is State Dispatch at (916)	

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		445-0045. State Dispatch shall contact the local warden or biologist. The U.S. Fish Wildlife Service and California Department of Fish and Wildlife shall be notified via phone within 24 hours and in writing within three working days of the accidental death or injury to a San Joaquin kit fox during activities. Notification must include the date, time, and location of the incident or of the finding of a dead or injured animal, and any other pertinent information. **Tricolored Blackbird** Specific to tricolored blackbird, construction activities shall avoid riparian areas during the breeding season. If it is not feasible to avoid these riparian areas during the breeding season (February 15 to September 15), then surveys for the tricolored blackbird shall be conducted following the guidelines in *Tricolored Blackbird Survey Protocols* (UC Davis 2008). If tricolored blackbirds are found on an activity site, activities shall be designed in such a manner as to avoid them and their habitat by 250 feet until young have fledged. Modifications to the habitat that would result in the inability of the tricolored blackbird to use the site for breeding in future breeding seasons shall be prohibited.	

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		MM 4.4-2: GENERAL MEASURES TO PROTECT BIOLOGICAL RESOURCES DURING CONSTRUCTION During construction, the following general measures shall be implemented to protect biological resources: • All construction equipment shall be maintained properly to ensure that it is all in good working order. • Construction-related leaks and spills shall be promptly repaired and cleaned up. • Vehicle access and storage of vehicles, equipment, and materials shall be limited to existing dirt roads and previously disturbed areas. • Project-related vehicles shall observe a 20 mph for unpaved roads and 25 mph for paved roads speed limit in an activity area, except on county roads and State and federal highways. Nighttime construction traffic shall be limited to emergency traffic only. • Dogs and other pets shall not be allowed within the activity area. • No firearms shall be permitted within the activity area. Exceptions include those carried by agents of public law enforcement and security personnel. • All materials staged on an activity site shall be inspected thoroughly prior to being moved to ensure no special-status species or sheltering	

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		within the materials. • To prevent inadvertent entrapment of animals during the construction phase of an activity, all excavated, steep-walled holes or trenches more than 2-feet deep shall be covered at the close of each working day by plywood or similar materials, or be provided with escape ramps at a rate of one ramp every 100 feet. Escape ramps may be constructed of earth fill or wooden planks with a slope no steeper than 45 degrees. If wooden planks are used, perpendicular groves or rungs shall be proved to aid in traction. All holes and trenches, whether covered or uncovered, more than 2-feet deep shall be inspected daily for trapped animals regardless of whether or not work is occurring in that area. Before holes or trenches are filled, they shall be thoroughly inspected for trapped animals. • Species may be attracted to den-like structures such as pipes, culverts, pallets, wire bales, and construction equipment. All pipes 4-inch diameter or greater that are stored on an activity site shall be securely capped or covered to prevent use by species. Materials and equipment shall be thoroughly inspected for the presence of special-status species before being buried, capped, or	

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		otherwise used or moved in any way. If species are discovered within staged materials or equipment, all activity in the immediate area shall stop until the species has vacated the area on its own accord. • Use of rodenticides and herbicides in an activity area shall be restricted. This is necessary to prevent impacts to special-status species and the species that may be affected secondarily. All uses of such compounds shall observe label and other restrictions mandated by the U.S. Environmental Protection Agency, California Department of Food and Agriculture, and other State and federal legislation, as well as additional activity-related restrictions deemed necessary by the U.S. Fish Wildlife Service and California Department of Fish and Wildlife. If rodent control must be conducted, zinc phosphide shall be used because of a proven lower risk to secondary carnivores. • All food-related trash such as wrappers, cans, bottles, and food scraps shall be disposed of in closed containers and removed at least once a week from an activity site. • No plants or wildlife shall be collected, taken, or removed from an activity site.	

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		MM 4.4-3: WORKER ENVIRONMENTAL AWARENESS PROGRAM Prior to construction, a Worker Environmental Awareness Program shall be developed and implemented in which individuals, including employees of contractors and subcontractors, who work on an activity site are informed about the sensitive biological resources in the area. This program shall consist of an onsite or training center presentation that may include a PowerPoint presentation and/or written materials for each participant. The program shall discuss the locations and types of sensitive biological resources on and near the Project site, an overview of the laws and regulations governing the protection of biological resources, the reasons for protecting these resources, the various protection measures to be implemented, and identify official points of contact shall questions or issues arise. Workers shall also be trained and directed to recognize species (live or dead) as well as nests, dens, and burrows, and they shall coordinate with the assigned biologists to assure accurate records of the locations of any species (live or dead) observed in the vicinity of an activity. Each participant shall be required to sign a statement declaring that the individual employee understands and will abide by the guidelines set	

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		forth in the program materials. A list of all participants shall be maintained and provided to wildlife agency representatives upon request. The program shall be presented annually and as needed to ensure that all workers receive training prior to being allowed to work on an activity site, and to ensure compliance with all protection measures. **MM 4.4-4: OIL AND GREASE DAILY MAXIMUM LIMITATION TO PROTECT WILDLIFE** During operation, produced water shall not exceed a daily maximum limitation of 35 milligrams/liter of oil and grease. As part of the required reporting to the Central Valley Regional Water Quality Control Board, this daily maximum limitation shall be included as part of the reporting in order to ensure that this limitation is being met for the benefit of wildlife and, particularly, migratory birds and waterfowl that use the Pacific Flyway.	
Impact 4.4-2: The Project Would Not Have a Substantial Adverse Effect On Any Riparian Habitat or Other Sensitive Natural Community Identified in Local or Regional Plans, Policies, Regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.	LTS	No mitigation is required.	LTS
Impact 4.4-3: The Project Would Not Have a	PTS	**MM 4.4-5: CLEAN WATER ACT SECTION 404 PERMIT**	LTS

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
Substantial Adverse Effect on Federally Protected Wetlands as Defined by Section 404 of the Clean Water Act (Including, But Not Limited to, Marsh, Vernal Pool, Coastal, etc.) Through Direct Removal, Filling, Hydrological Interruption, or Other Means.		Prior to construction, the District shall determine whether the U.S. Army Corps of Engineers (Corps) considers some or all of the affected drainages and/or basins waters of the United States and that the Project would result in the discharge of dredged or fill material into such waters. If the Corps determines that the Project would affect waters of the United States under the Corps' jurisdiction, then the District shall obtain an approved Clean Water Act Section 404 Permit from the Corps prior to the commencement of construction activities. **MM 4.4-6: CLEAN WATER ACT SECTION 401 WATER QUALITY CERIFICATION** Prior to construction, the District shall determine whether the State Water Resources Control Board (SWRCB) and Central Valley Regional Water Quality Control Board (RWQCB) consider some or all of the affected drainages and/or basins waters of the State. If the SWRCB and Central Valley RWQCB determine that the Project would affect waters of the State, then the District shall either 1) verify coverage under an allowable Nation Wide Permit or 2) obtain an approved Clean Water Act Section 401 Water Quality Certification prior to the commencement of construction activities. **MM 4.4-7: LAKE AND STREAMBED ALTERATION**	

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		AGREEMENT Prior to construction, the District shall determine whether the California Department of Wildlife (CDFW) consider the bed, channel, or banks of affected drainages and/or basins under their regulatory control. If the CDFW determines that the Project affects bed, channel, or banks under their control, then the District shall obtain an approved Lake and Streambed Alteration Agreement prior to the commencement of construction activities.	
Impact 4.4-4: The Project Would Not Interfere Substantially with the Movement of Any Native Resident or Migratory Fish or Wildlife Species or with Established Native Resident or Migratory Wildlife Corridors, or Impede the Use of Native Wildlife Nursery Sites.	PS	Implement Mitigation Measures MM 4.4-1 through MM 4.4-3.	LTS
Cumulative	PS	Implement Mitigation Measures MM 4.4-1 through MM 4.4-7.	LTS
Cultural Resources			
Impact 4.5-1: The Project Would Not Cause a Substantial Adverse Change in the Significance of a Historical Resource as Defined in Section 15064.5.	PS	**MM 4.5-1: CEASE WORK IF HISTORIC OR PREHISTORIC CULTURAL RESOURCE(S) FOUND** In the event historic-era or prehistoric cultural materials are encountered during construction or ground disturbance activities, all work within 50 feet of the find shall cease immediately and the area cordoned off until a qualified archaeologist meeting the Secretary of the Interior's Professional	LTS

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		Qualification Standards for prehistoric and historic archaeologist can evaluate the find and recommendations can be made. If the qualified archaeologist determines that the discovery represents a potentially significant cultural resource, additional investigations may be required to mitigate adverse impacts from Project implementation. These additional studies may include avoidance, testing, and evaluation or data recovery excavation. All reports, correspondence, and determinations regarding prehistoric or historic-era cultural materials found on the site shall be submitted to the California Historical Resources Information System's Southern San Joaquin Valley Information Center at California State University, Bakersfield.	
Impact 4.5-2: The Project Would Not Cause a Substantial Adverse Change in the Significance of an Archaeological Resource Pursuant to Section 15064.5.	PS	**MM 4.5-2: WORKER CULTURAL AWARENESS PROGRAM** Prior to the issuance of grading or building permits, and for the duration of construction activities, a Construction Worker Environmental and Cultural Awareness Training Program shall be provided to all new construction workers within one week of employment at the Project site. The training shall be prepared and conducted by a qualified archaeologist and Native American representative. The training may be in the form of a video. The qualified archaeologist and Native	LTS

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		American representative shall be available to answer questions posed by workers. The training may be discontinued when ground disturbance is completed or suspended, but must resume when construction activities resume. The training shall include, but not be limited to: • A discussion of applicable cultural resources statues, regulations, and related enforcement provisions; • An overview of the prehistoric and historic environmental setting and context as well as current cultural information regarding local tribal groups provided by the Native American representative; • A summary of the effects of the Project on cultural resources; • Samples or visuals of artifacts that might be found in the Project area; • A discussion of what such artifacts may look like when partially or totally buried and then freshly exposed; • A discussion of what prehistoric and historic archaeological deposits look like at the surface and when exposed during construction; • Instruction that in the event cultural resources are unearthed during ground-disturbing activities, the qualified archaeologist shall be empowered to halt or redirect ground-disturbing activities away from the vicinity of the	

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		discovery until the qualified archaeologist has evaluated the find, determined whether the find is culturally sensitive, and designs an appropriate short- and long-term treatment plan. The qualified archaeologist shall establish an appropriate protocols and procedures for minimizing impacts during construction and future impacts during Project operation and maintenance; • An informational guide that identifies the reporting procedures in the event of a discovery; • Other information as deemed necessary by the qualified archaeologist or Native American representative; • An acknowledgement form signed by each working indicating that cultural training has been completed; • A sticker that shall be placed on hard hats indicating that the worker has completed the cultural training. Construction workers shall not be permitted to operate equipment within the construction area unless they have attended the training and are wearing hard hats with the required sticker; and • A copy of the training transcript and/or training video, as well as a list of the names of all personnel who attended the training and copies of the signed acknowledgement forms shall be kept by the District.	

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		MM 4.5-3: ARCHAEOLOGICAL MONITOR The services of a qualified archaeological monitor shall be retained by the District to monitor ground-disturbing activities during construction in areas of the area of potential effect determined to be moderately sensitive for buried archaeological deposits. The qualified archaeological monitor shall be provided all Project documentation related to cultural resources prior to commencement of ground disturbance activities. Project documentation shall include, but not be limited to, previous cultural studies, surveys, maps, drawings, etc. Any modifications or updates to project documentation, including construction plans and schedules, shall immediately be provided to the qualified archaeological monitor. Implement Mitigation Measure MM 4.5-1.	
Impact 4.5-3: The Project Would Not Directly or Indirectly Destroy a Unique Paleontological Resource or Site or Unique Geologic Feature.	PS	**MM 4.5-4: AS-NEEDED PALEONTOLOGICAL MONITOR** If any fossil remain are uncovered during construction, all work in that area shall cease and a 50-foot buffer established until a qualified paleontologist can determine scientific importance of the find. If the fossils are evaluated to be scientifically important, the qualified paleontologist shall	LTS

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		remove them. If warranted, the qualified paleontologist shall make collections of exposed fossils from the lithologic units of high paleontological importance. All vertebrate and representative samples of mega-invertebrate and plant fossils shall be collected. The qualified paleontologist shall be equipped to allow for the rapid removal of fossil remains and/or matrix and thus reduce the potential for any construction delays. Depending upon the paleontologic importance of the rock unit, the rock shall be examined periodically for microfossils by wet or dry screening. If important fossil remains are found as a result of screening, samples of sufficient size to generate a representation of the organisms preserved shall be collected and processed, if warranted, onsite or at a convenient location. The reports documenting the fossil finds shall be submitted to an accredited institution such as the Vertebrate Paleontology Division of Natural History Museum of Los Angeles County or the University of California Museum of Paleontology at the Berkeley Natural History Museum.	
Impact 4.5-4: The Project Would Not Disturb Any Human Remains, Including Those Interred Outside of Formal Cemeteries.	PS	**MM 4.5-5: DISCOVERY OF HUMAN REMAINS** In the event that human remains are discovered, further excavation or disturbance shall be prohibited pursuant to California Health and Safety Code Section 7050.5. The specific protocol, guidelines, and channels of communication	LTS

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		outlined by the Native American Heritage Commission, in accordance with Health and Safety Code Section 7050.5, Public Resources Code Section 5097.98, and Senate Bill 447 shall be followed. In the event of the discovery of human remains, at the direction of the county coroner, Health and Safety Code Section 7050.5(c) shall guide potential Native American consultation.	
Cumulative	PS	Implement Mitigation Measures MM 4.5-1 through MM 4.5-5.	LTS
Geology and Soils			
Impact 4.6-1: The Project Would Not Expose People or Structures to Potential Substantial Adverse Effects, Including the Risk of Loss, Injury or Death Involving Seismic-Related Ground Failure, Including Liquefaction.	PS	**MM 4.6-1: PREPARE GEOTECHNICAL STUDY** Prior to final design, a geotechnical study shall be prepared for the Project site, and recommendations of the study shall be incorporated into final design of the Project. The study shall include recommendations on proper recompaction of native soil deposits at the two reservoir sites in order to properly engineer the dams for the reservoirs. The study shall also include an analysis of the potential for collapsible and expansive soils at the site as well as design remedies in the event that such soils are present and could pose a geotechnical hazard to the Project facilities.	LTS
Impact 4.6-2: The Project Would Not Result in Substantial Soil Erosion or the Loss of Topsoil.	PS	**MM 4.6-2: MINIMIZE GROUND DISTURBANCE** During construction, the contractor(s) shall limit ground disturbance to the minimum area necessary for construction and operation of the Project.	LTS

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		MM 4.6-3: USE EXISTING ROADS During construction, the contractor(s) shall use existing roads to the greatest extent feasible to minimize erosion. Implement Mitigation Measure MM 4.9-1.	
Impact 4.6-3: The Project Would Not Be Located on a Geologic Unit or Soil that is Unstable, or that Would Become Unstable as a Result of the Project, and Potentially Result In On Or Off-Site Landslide, Lateral Spreading, Subsidence, Liquefaction or Collapse.	PS	Implement Mitigation Measure MM 4.6-1.	LTS
Impact 4.6-4: The Project Would Not Be Located on Expansive Soil, As Defined in Table 18-1-B of the Uniform Building Code (1994), Creating Substantial Risks to Life or Property.	PS	Implement Mitigation Measure MM 4.6-1.	LTS
Cumulative	PS	Implement Mitigation Measures MM 4.6-1 through MM 4.6-3 and MM 4.9-1.	LTS
Greenhouse Gas Emissions			
Impact 4.7-1: The Project Would Not Generate Greenhouse Gas Emissions, Either Directly or Indirectly, That May Have a Significant Impact on the Environment.	NI	No mitigation is required.	NI
Impact 4.7-2: The Project Would Not Conflict with an Applicable Plan, Policy	NI	No mitigation is required.	NI

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
or Regulation Adopted for the Purpose of Reducing the Emissions of Greenhouse Gases.			
Cumulative	PS	Implement Mitigation Measures MM 4.8-1 and MM 4.8-2.	LTS
Hazards and Hazardous Materials			
Impact 4.8-1: The Project Would Not Create a Significant Hazard to the Public or the Environment Through the Routine Transport, Use, or Disposal of Hazardous Materials.	LTS	No mitigation is required.	LTS
Impact 4.8-2: The Project Would Not Create a Significant Hazard to the Public or the Environment Through Reasonably Foreseeable Upset and Accident Conditions Involving the Release of Hazardous Materials Into the Environment.	PS	**MM 4.8-1: RE-ABANDON PREVIOUSLY UNKNOWN OIL WELL(S)** If, during construction, a previously unknown abandoned oil well is uncovered or damaged during ground-disturbance activities, all work shall cease in the vicinity of the well, and the Division of Oil, Gas, and Geothermal Resources shall be contacted for requirements and approvals. Such requirements will likely include the submittal and approval of Notice of Intention to Abandon/Re-Abandon Well (OG108). No work shall occur in the vicinity of a well until Division approval has been granted and the affected well has been re-abandoned to the satisfaction of the Division. **MM 4.8-2: PROVIDE DUST MASKS TO CONSTRUCTION WORKERS** During construction, the construction contractor(s) shall make dust masks available to all	LTS

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		construction workers and shall make workers aware that there is the possibility of exposure to, and the risks associated with the inhaling of, environmentally-persistent pesticides, residual hydrocarbons, and the *Coccidioides* fungus that could be found in the Project site's soil.	
Cumulative	PS	Implement Mitigation Measures MM 4.8-1 and MM 4.8-2.	LTS
Hydrology and Water Quality			
Impact 4.9-1: The Project Would Not Violate Any Water Quality Standards or Waste Discharge Requirements.	PS	**MM 4.9-1: STORMWATER POLLUTION PREVENTION PLAN** Prior to ground-disturbing activities, the District shall prepare and implement a Stormwater Pollution Prevention Plan that specifies best management practices, with the intent of keeping all products of erosion from moving offsite. The Stormwater Pollution Prevention Plan shall include contain a site map that shows the construction site perimeter, existing and proposed man-made facilities, stormwater collection and discharge points, general topography both before and after construction, and drainage patterns across the Project site. Additionally, the Stormwater Pollution Prevention Plan shall contain a visual monitoring program and a chemical monitoring program for non-visible pollutants to be implemented (if there is a failure of best management practices). The requirements of the Stormwater Pollution Prevention Plan shall be incorporated into design specifications and	LTS

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		construction contracts. Recommended best management practices for the construction phase may include the following: • Stockpiling and disposing of demolition debris, concrete, and soil properly. • Protecting any existing storm drain inlets and stabilizing disturbed areas. • Implementing erosion controls. • Properly managing construction materials. • Managing waste, aggressively controlling litter, and implementing sediment controls. **MM 4.9-2: WASTE DISCHARGE REQUIREMENTS** Prior to Project operation, the District shall obtain approved Waste Discharge Requirements from the Central Valley Regional Water Quality Control Board that includes Water Quality Objectives to protect the quality of waters of the State.	
Impact 4.9-2: The Project Would Not Substantially Deplete Groundwater Supplies or Interfere Substantially with Groundwater Recharge Such That There Would Be a Net Deficit In Aquifer Volume or a Lowering of the Local Groundwater Table Level (e.g., The Production Rate of Preexisting Nearby Wells	LTS	No mitigation is required.	LTS

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
Would Drop to a Level Which Would Not Support Existing Land Uses or Planned Uses for Which Permits Have Been Granted).			
Impact 4.9-3: The Project Would Not Substantially Alter the Existing Drainage Pattern of the Site or Area, Including Through the Alteration of the Course of a Stream or River, in a Manner Which Would Result in Substantial Erosion or Siltation On- or Off-Site.	PS	Implement Mitigation Measures MM 4.3-1 and MM 4.9-1.	LTS
Impact 4.9-4: The Project Would Not Substantially Alter the Existing Drainage Pattern of the Site or Area, Including Through the Alteration of the Course of a Stream or River, or Substantially Increase the Rate or Amount of Surface Runoff in a Manner Which Would Result in Flooding On- or Off- Site.	PS	Implement Mitigation Measure MM 4.9-1.	LTS
Impact 4.9-5: The Project Would Not Create or Contribute Runoff Water Which Would Exceed the Capacity of Existing or Planned Stormwater Drainage Systems or Provide Substantial Additional Sources of Polluted Runoff.	PS	Implement Mitigation Measure MM 4.3-1, MM 4.9-1, and MM 4.9-2.	LTS
Impact 4.9-6: The Project Would Not Otherwise Substantially Degrade	PS	Implement Mitigation Measures MM 4.3-1, MM 4.9-1, and MM 4.9-2.	LTS

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
Water Quality.			
Impact 4.9-7: The Project Would Not Place Within a 100-Year Flood Hazard Area Structures Which Would Impede or Redirect Flood Flows.	LTS	No mitigation is required.	LTS
Impact 4.9-8: The Project Would Not Expose People or Structures to a Significant Risk of Loss, Injury or Death Involving Flooding, Including Flooding as a Result of the Failure of a Levee or Dam.	PS	**MM 4.9-3: NEW DAM AND ASSOCIATED RESERVOIR APPLICATIONS** Prior to construction of the Guzman and Section 35 Reservoirs, the District shall submit an application to the Department of Water Resources Division of Safety of Dams for each earthen embankment and associated reservoir and receive written approval of plans and specifications for each earthen embankment and reservoir from the Division of Safety of Dams. Per California Water Code, Division 3, Dams and Reservoirs, and California Code of Regulations, Title 23, Division 2, Chapter 1, Dams and Reservoirs, the applications shall include: • Name and address of the owner; • Location, type, size, and height of the proposed dam or reservoir and appurtenant works; • Storage capacity of the reservoir; • As accurately as may be readily obtained, the area of the drainage basin, rainfall and stream flow records and flood flow records and estimates; • Purpose for which the impounded or diverted water is to be used;	LTS

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		• Maps and plans and specifications of such character and size and setting forth such pertinent details and dimensions as the Division of Safety of Dams requires; • Copy of an entitlement to the use of water issued by the State Water Resources Control Board or a statement of the legal basis of the right; • Evidence that a statement of water diversion and use has been filed with State Water Resources Control Board or a statement either establishing that a statement of water diversion and use is not legally required, or showing good cause for not filing one; • Evidence of water rights; • Information necessary to enable the department to comply with the requirements of California Environmental Quality Act, either a copy of an environmental impact report or negative declaration, or evidence that a lead agency is preparing or shall prepare environmental documentation or data and information necessary for the department to act as a lead agency to prepare environmental documentation; • Filing fee based upon estimated cost of the dam and/or reservoir as set forth in California Water Code, Division 3, Section 6300; and • Such other pertinent information as the Division of	

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		Safety of Dams requires. Per Division of Safety of Dams' guidance, the applications may also need to include: • Data concerning subsoil and foundation conditions and the materials entering into construction of the dam or reservoir; • Investigations of, and reports on, subsurface conditions, involving such matters as exploratory pits, trenches and adits, drilling, coring, geophysical surveys, tests to determine leakage rates, and physical tests to measure in place the properties and behavior of foundation materials at the dam or reservoir site; • Investigations of, and reports on, the geology of the dam or reservoir site and its vicinity, possible geologic hazards, availability and quality of construction materials, and other pertinent features; or • Such other appropriate information as may be necessary in a given instance. Plans and specifications submitted to Division of Safety of Dams shall be prepared by, and the work of construction, enlargement, repair, alteration or removal of a dam or reservoir shall be under the responsible charge of, a civil engineer registered pursuant to State law or of such other person as	

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		may be permitted under the provisions of the Business and Professions Code to assume responsible charge of such work. **MM 4.9-4: NOTICES OF COMPLETION** Upon completion of the Guzman and Section 35 Reservoirs, the District shall give notices of completion to Division of Safety of Dams and, as soon thereafter as possible, file supplementary drawings or descriptive matter showing or describing the earthen embankment and associated reservoir as actually constructed, including the following: • A record of all grout holes and grouting; • A record of permanent location points and bench marks; • A record of tests of concrete or other material used in the construction of the dam or reservoir; and • Any other items which may be of permanent value and have a bearing on the safety and permanency of the dam or reservoir. **MM 4.9-5: CERTIFICATES OF APPROVAL** Prior to impounding water, either through action or inaction, at the Guzman and Section 35 Reservoirs, the District shall receive certificates of approval from the Division of Safety of Dams that finds the that the Reservoirs are safe to impound water within the limitations	

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		prescribed in the certificates.	
Cumulative	PS	Implement Mitigation Measures MM 4.3-1 and MM 4.9-1 through MM 4.9-5.	LTS
Mineral Resources			
Impact 4.10-1: The Project Would Not Result in the Loss of Availability of a Known Mineral Resource that Would Be of Value to the Region and the Residents of the State.	NI	No mitigation is required.	NI
Impact 4.10-2: The Project Would Not Result in the Loss of Availability of a Locally Important Mineral Resource Recovery Site Delineated on a Local General Plan, Specific Plan, or Other Land Use Plan.	NI	No mitigation is required.	NI
Cumulative	NI	No mitigation is required.	NI
Noise			
Impact 4.11-1: The Project Would Not Result in the Exposure of Persons to or Generation of Noise Levels in Excess of Standards Established in the Local General Plan or Noise Ordinance, or Applicable Standards of Other Agencies.	PS	**MM 4.11-1: HEARING CONSERVATION PROGRAM** Prior to construction, the District shall require that the chosen construction contractor(s) have established an effective Hearing Conservation Program during the construction period in compliance with 29 Code of Federal Regulations 1910.95, including providing hearing protection devices, employee training and education, and recordkeeping. The chosen contractor(s) shall provide the District with proof of compliance.	LTS
Impact 4.11-2: The Project Would Not Result in the Exposure of Persons to or	LTS	No mitigation is required.	LTS

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
Generation of Excessive Groundborne Vibration or Groundborne Noise Levels.			
Impact 4.11-3: The Project Would Not Result in a Substantial Temporary or Periodic Increase in Ambient Noise Levels in the Project Vicinity Above Levels Existing Without the Project.	PS	Implement Mitigation Measure MM 4.11-1.	LTS
Cumulative	PS	Implement Mitigation Measure MM 4.11-1.	LTS
Transportation and Traffic			
Impact 4.12-1: The Project Would Not Conflict with an Applicable Plan, Ordinance or Policy Establishing Measures of Effectiveness for the Performance of the Circulation System, Taking into Account All Modes of Transportation Including Mass Transit and Non-Motorized Travel and Relevant Components of the Circulation System, Including But Not Limited to Intersections, Streets, Highways and Freeways, Pedestrian and Bicycle Paths, and Mass Transit.	PS	**MM 4.12-1: ENCROACHMENT PERMIT** Prior to construction of the 18-inch pipeline alignment under State Route 65, the District shall submit a Standard Encroachment Permit Application (TR-0100) to, and receive an approved encroachment permit from, the California Department of Transportation, District 6, Encroachment Permits Office. As required by Caltrans, the application shall include supporting documentation such as, but not limited to: plans, location map, environmental documentation, letter of authorization, surety bonds, liability insurance, any applicable fees, etc.	LTS
Impact 4.12-2: The Project Would Not Conflict with an Applicable Congestion Management Program, Including, But Not Limited to Level of Service Standards and Travel Demand Measures, or Other Standards	LTS	No mitigation is required.	LTS

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
Established by the County Congestion Management Agency for Designated Roads or Highways.			
Cumulative	PS	Implement Mitigation Measure MM 4.12-1.	
Utilities and Service Systems			
Impact 4.17-1: The Project Would Not Exceed Wastewater Treatment Requirements of the Applicable Regional Water Quality Control Board.	PS	Implement Mitigation Measure MM 4.9-2	LTS
Impact 4.13-2: The Project Would Not Require or Result in the Construction of new Storm Water Drainage Facilities or Expansion of Existing Facilities, the Construction of Which Could Cause Significant Environmental Effects.	NI	No mitigation is required.	NI
Cumulative	PS	Implement Mitigation Measure MM 4.9-2.	LTS
NI = No impact LTS = Less than significant impact PS = Potentially significant impact			